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VOCATIONAL COMPETENCIES NEEDED FOR EMPLOYMENT IN THE FEED INDUSTRY, A REPORT OF RESEARCH SUPPORTED BY THE MICHIGAN STATE ALL-UNIVERSITY RESEARCH FUND, 1963-64.

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A PILOT PROGRAM CONDUCTED AT PIGEON, MICHIGAN, IN 1962-64 INDICATED A SERIOUS LACK OF MATERIALS FOR PROVIDING AN INTEGRATED INSTRUCTIONAL PROGRAM FOR TRAINING PROSPECTIVE WORKERS FOR NONFARM INDUSTRIES AND BUSINESSES. THE FEED INDUSTRY WAS CHOSEN FOR A PROJECT WHICH WOULD--(1) ANALYZE THE FUNCTIONS PERFORMED IN THE INDUSTRY, (2) DETERMINE THE COMPETENCIES NEEDED BY WORKERS AT SOME LEVEL, (3) BREAK THESE DOWN INTO UNDERSTANDINGS, SKILLS, AND ABILITIES WHICH COULD BE USED BY EDUCATORS IN DEVELOPING TRAINING PROGRAMS, AND (4) GROUP THESE INTO INSTRUCTIONAL UNITS. EDUCATORS ISOLATED FUNCTIONS AND COMPETENCIES, AND REPRESENTATIVES OF MORE THAN 75 PERCENT OF THE LIVESTOCK FEED INDUSTRY IN MICHIGAN VALIDATED AND RATED THE IMPORTANCE OF THE COMPETENCIES. IT WAS CONCLUDED THAT THIS APPROACH OF ANALYZING A TOTAL INDUSTRY WAS A PRODUCTIVE ONE, AND THE DATA COULD PROVIDE THE BASIS FOR TRAINING PROGRAMS FOR STUDENTS OF DIFFERENT LEVELS. TABLES SHOW (1) RATINGS OF COMPETENCIES UNDER EACH FUNCTION BY REPRESENTATIVES OF THE FEED INDUSTRY, (2) TEACHER RESPONSE TO ADEQUACY OF SUGGESTED UNDERSTANDINGS, SKILLS, AND ABILITIES FOR DEVELOPMENT OF THE COMPETENCIES, (3) COMPETENCIES IDENTIFIED AS IMPORTANT FOR EFFECTIVE JOB PERFORMANCE BY WORKERS IN THE FEED INDUSTRY, AND (4) OUTLINES OF INSTRUCTIONAL UNITS WHICH MAY BE USED TO DEVELOP THE COMPETENCIES. (EM)

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Vocational Competencies Needed for Employment In the Feed Industry

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Educational Research Series
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VOCATIONAL COMPETENCIES NEEDED FOR EMPLOYMENT IN THE FEED INDUSTRY

A Report of Research Supported by the Michigan State
All-University Research Fund, 1963-64

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VOCATIONAL COMPETENCIES NEEDED FOR EMPLOYMENT IN THE FEED INDUSTRY*

Problem

Adequate vocational training for non-farm agricultural occupations is not now being provided in Michigan. Very few of the schools in small cities and rural areas offer vocational programs other than agriculture and homemaking. The agricultural programs which are offered are geared primarily to training for farming.

Our experience with a pilot program conducted at Pigeon, Michigan, in 1962-64, indicated a serious lack of materials for providing an integrated instructional program specifically for training prospective workers for non-farm industries and businesses. There are materials available for teaching in areas such as insurance, trade, and office practice. There are other materials related to instruction for farming. But we have found none that are organized to provide students with materials specifically related to non-farm agricultural occupations.

In addition, studies have indicated that the job classifications and duties of employees in similar businesses vary considerably. In one establishment, a "parts man" is called upon to do repair work on farm machinery. In other situations, he is asked to sell items to farmers or to demonstrate machinery on farms. The experiences with the pilot project--and others--indicate that we need to study many of the non-farm agricultural businesses and industries to determine the functions to be performed, and the knowledge, understandings, skills, and abilities needed by workers to perform these functions. This material could then be used to help teachers and school administrators develop instructional materials for the training programs they would organize.

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*Doctoral candidates in vocational education assisted with many aspects of this study. Mr. Harlan Hegler did nuch of the preliminary work of analyzing the industry and identifying its functions and related competencies. Mr. William Householder coordinated and prepared materials for the interviews, and completed part of the tabulations. Mr. James Albracht did some of the interviews. Mr. John Thompson helped to complete the tabulations. Mr. Allen Baron checked the office and distributive competencies.

Specific objectives of such training programs would include the following:

1. To determine the functions of workers at different levels in non-farm agricultural businesses and industries;
2. To identify the functions that require knowledge, understandings, or abilities in agriculture for satisfactory performance; and
3. To develop instructional materials for training programs designed to train for these occupations.

The foregoing statement of purpose is essentially the same as that of the application for an All-University research grant for the year 1963-64. This grant was to help finance a pilot program which would establish a pattern for research to help achieve the objectives stated above. This document is a report on that project. It will (1) review the accomplishments to date, (2) report the findings, and (3) suggest some next steps which might be taken.

Literature

Earlier reports dealing with training for non-farm agricultural occupations have been reviewed in the literature in some detail.* These reviews will not be repeated here. Currently, however, a number of related studies are under way. They have not been reviewed in the literature, but verbal reports were presented at a recent Conference on Agricultural Occupations held at the National Center for Research in Agricultural Education, the Ohio State University, January 1964. At present, these reports are being summarized at the National Center for the next issue of Research in Agricultural Education.

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*See: Raymond M. Clark, "The Need for Training for Non-Farm Agricultural Occupations." East Lansing, Michigan: College of Education, Michigan State University, 1959, mimeographed. This content also appears in a seminar report: New Dimensions in Agricultural Education. Urbana, Illinois: College of Education, University of Illinois, 1960.

According to the Conference reports, the information being collected will not identify the content needed to prepare workers for satisfactory on-the-job performance in these enterprises. At the same time, studies by Sutherland and Thompson in California, by Tom in New York, and by Clark in Michigan, indicate that the tasks performed by workers in similar enterprises vary considerably. Further, our earlier studies indicate that many workers in non-farm agricultural occupations need competencies which cut across traditional vocational services. That is, they need in their training programs elements concerned with distributive occupations, office practice, trade, and agriculture.

With these facts in mind, the project to be discussed herein was designed to identify such occupational competencies by: (1) analyzing the functions performed in the industry; (2) determining the competencies which are needed by workers at some level of the industry, and which contribute to effective performance of the functions in question; (3) breaking down these competencies into understandings, abilities, and skills which can be used by educators in developing appropriate training programs; and, for such purposes, (4) grouping the understandings, abilities, and skills under suitable instructional units. These procedures are described in the sections which follow.

Design

First, a number of the most common and most important non-farm agricultural businesses and industries were listed. Among these were the ones listed below:

- Feed industry
- Farm machinery industry
- Farm equipment industry
- Nursery industry
- Greenhouse industry
- Farm credit business
- Farm chemical industry, subdivided as follows:
  - Pesticides
  - Herbicides
  - Insecticides
  - Fungicides
  - Antibiotics

From this list we chose the feed industry for our pilot study. We then planned the following steps:

1. Identify the functions performed in the entire industry.
2. Validate the functions by means of a jury of individuals who are well acquainted with the feed industry.
3. List the competencies required for performance of the functions.
4. Secure validation of these competencies by personal interviews with a jury of men who are engaged in the feed industry, and who are recognized as leaders of the industry within the State.
5. After validation of these competencies, make a detailed analysis of each competency item which was rated as important or essential by the jury of industry people. The detailed analysis is to be made in terms of understandings, skills, and abilities required for satisfactory performance in the industry.
6. Submit this analysis to a group of educators for validation.
7. Group the understandings, skills, and abilities into suitable instructional units.

8. Report the findings to persons engaged in educational activities for use in organizing training programs to meet the needs of workers in the feed industry.
9. An additional step may be taken when the analysis of additional industries has been completed, namely, the clustering of items applicable to more than one industry or to more than one function.

At present, the latter step is not possible since the pilot project did not involve a wide enough range of industries.

Procedure

Determining the Functions

The first step in determining the competencies needed for employment in the feed industry consisted of preparing a list of the functions which are performed somewhere in the total industry. The following nine functions were identified:

1. Processing
2. Sales
3. Service
4. Office practices
5. Public relations
6. Purchasing
7. Transportation
8. Research
9. Maintenance

For the most part, the concept "function" was fairly easy to apply. However, as we interviewed some individuals, we found it necessary to remind them not to think of their own specific jobs nor of their own particular businesses, but rather to think of the industry as a whole.

After the list of functions was completed, it was checked with staff members from Cooperative Extension and from Short Courses at Michigan State University. These people are closely associated with representatives of the feed industry, and are perhaps better able to identify the functions which are performed than are individuals employed in a single segment of the industry.

Determining the Competencies

For each function identified, the competencies which were believed to be necessary for its performance were listed. Thus, for each function, we asked ourselves, "What competencies are necessary for the performance of this particular function somewhere in the total industry?" When the list of competencies was completed to our satisfaction, we submitted it to individuals in the following positions:

1. Extension Specialist, Animal Husbandry, Michigan State University;
2. Extension Specialist, Poultry Husbandry, Michigan State University;
3. Extension Specialist, Dairy Husbandry, Michigan State University
4. Professor, Farm Elevator, Manager Training Program, Michigan State University; and
5. Two representatives of the feed industry at the State level in Michigan.

These individuals were asked to modify and to add to, or to subtract from, our list of competencies. On the basis of their recommendations, the original list of competencies was revised and duplicated.

The next step was to select representatives of the feed industry to serve as a jury: to validate our list of competencies, and to rate their importance to the total industry. Again we called on the individuals listed above, and asked them to help identify people in the feed industry to be interviewed.

Contacts with the industry representatives and arrangements for the interviews were made by telephone. Mr. William Householder and the author did the interviewing. In preparation, each of us practised on a number of individuals--including teachers of agriculture, and faculty members of the College of Agriculture and of Agricultural Education in the College of Education. Our particular objective was to develop uniform procedures in interviewing, and thus to reduce the variations and biases which stem from this source.

In every interview situation, we were welcomed enthusiastically. It is evident that the feed industry people are anxious for help in training workers for their industry. We conducted a total of fifteen interviews. Included in this number were individuals who represented, at the State level, more than 75 per cent of the total livestock feed industry in Michigan.

One unique aspect of our interviews was that we placed each competency item on a small card. These cards were color coded according to the function they represented. When we asked the interviewees to rate the competencies on a four-point scale, they placed the cards in appropriate sections of a partitioned box. Following the interview, the interviewers could record the responses to each item in a very short time. We found that, for each interview, it took approximately 35 minutes to rank the 189 items. This is much less time than would be required if the items had been in the form of a check list on large sheets of paper.

The competency items which were rated 3 or 4 on a four-point scale are listed in Tables 1-9 of Appendix A. Items rated 1 or 2 are not considered in these tables--nor elsewhere in this report. In general, Tables 1-9 summarize teacher's responses regarding the adequacy of the listed understandings, skills, and abilities to develop the competencies indicated.

Identifying the Instructional Content

Following the validation of the functions and of the competencies required for their performance, the skills, understandings, and abilities needed to develop each of the competencies were identified. Since the representatives of the feed industry had rated the competencies on a four-point scale--4 being the highest rating, and 1 the lowest rating--we arbitrarily confined the development of understandings, abilities, and skills to the competencies rating 3 or 4.

The lists of understandings, skills, and abilities were developed by the author and a group of graduate students in Agricultural Education. These lists were then checked by teachers of Vocational Agriculture in Michigan. The teachers were asked, "When the items listed under the competency are taught, will the students be able to perform in the industry at some level in terms of the competency?" Tables 1-9 of Appendix A indicate the number of teachers who were asked to respond, and the total numbers of positive and of negative responses for each section of the lists of understandings, skills, and abilities.

In each case, the teacher was contacted personally--by the author, or by one of the graduate students working on the project. The lists of understandings, skills, and abilities were first reviewed with the teacher. Then the teacher was asked to check the lists and to return them to us. One hundred per cent of the lists were returned.

In listing the understandings, skills, and abilities, an attempt was made to include all aspects of vocational and general education specifically needed to develop the competencies in question. For example, the understandings, skills, and abilities which are listed will generally require a sound base in communication and in the sciences--as well as training in the maintenance of farm machinery, an understanding of principles of nutrition, and some mastery of many other related fields. It is evident that the training of competent workers for the non-farm agricultural occupations cannot be confined to any one of the traditional areas of vocational eeucation. It is also evident that a well-rounded training program must make available instructional facilities from all of the traditional areas of vocational education as well as from the areas of general education.

Development of Training Programs

The understandings, skills, and abilities which were submitted to the vocational agriculture teachers were re-grouped into a number of instructional experiences and activities. In appropriate work-experience situations, these experiences and activities may be designed for either the high school or the post-high school levels. The reader will recognize that the subject matter to be developed under the various unit titles is to be adjusted to the levels of the students. In some cases, the content will also be related to the area of the country in which the program is operated.

The choice of unit titles for the experiences and activities is largely an arbitrary one. It may vary among teachers, and among school systems. In some cases, our unit titles incorporate areas of subject matter which are quite broad. In other cases, the unit titles may imply a type of school organization which is not practical for any given situation. Whatever the conditions, the choice of alternative titles and/or subject matter should prove to be equally satisfactory for developing training programs in some areas. Moreover, it is expected that teachers and curriculum specialists will make necessary modifications. At the same time, it is hoped that they will retain the essentials of the content outlined in this report.

The suggested units, together with the lists of understandings, skills, and abilities falling under them, may be used for developing courses of study for present or prospective workers in the feed industry. For example, a teacher of agriculture might teach a unit (or a course) on livestock nutrition to a class of high school seniors. If the students have had no previous work in nutrition, the teacher will need to start with the most elementary aspects of this subject. This introductory work will probably include the role of proteins, carbohydrates, fats, and minerals in the nutrition of livestock; the characteristics of common grains and forages in terms of their nutritional contributions to animals; and the importance of adequate nutrition for economical livestock production.

On the other hand, a teacher of a thirteenth or fourteenth grade in an area vocational school would likely gear his instruction to a higher level. Usually, his students will have had some elementary instruction in nutrition, along with the necessary chemistry and bacteriology to support more advanced work.

In the same way, students in a high school might be given some basic instruction in office practices, salesmanship, and communication--all of which enable them to contribute to the performance of related functions in industry. Similarly, post-high school students might be trained to contribute to the performance of the function or functions in question through more advanced courses in appropriate subject matter areas.

It is obvious that well-trained personnel, working at any level, will contribute to the performance of the functions of the industry. As suggested and illustrated above, teachers will need to consider the background and the previous training of their students. For this reason, no attempt has been made to indicate what materials should be taught at either the high school or the post-high school levels. Thus, a class of post-high school students with no background of vocational education in high school, might be given training normally provided in the high school. On the other hand, baccalaureate courses in any of the fields listed may be obtained at some colleges or universities. The general indication is that the teacher will be able to prepare students to perform a share of the functions of the industry at the level for which they can qualify themselves.

Further examination of the lists of understandings, abilities, and skills required in the feed industry indicates that, in many cases, similar subject matter is required for the performance of a number of different functions. No doubt, similar analyses of other non-agricultural industries will indicate that, in many instances, the same subject matter will be required for the performance of functions in several non-farm agricultural businesses. This suggests that, in general and as noted above, classes might be organized which will help to prepare workers for jobs at several different points of the business or industry in question. For example, the feed salesman, the feed serviceman, and the trucker who delivers feed to farms, all need to understand and be able to apply some of the principles of livestock sanitation as they perform their respective tasks. In general, such clustering of subject matter will help teachers to develop training programs to meet the great variety of needs which are identified in studies such as this one.

An examination of the related experiences and activities summarized in Tables 10-18 of Appendix B, also reveals that prospective workers need training in the installation, maintenance, and operation of equipment. It is fairly certain that these people would not need training in agriculture. However, they would need considerable training in one or more aspects of work related to the machinery and equipment phases of the business or industry.

We have had described to us electronically-controlled machine capable of mixing feed according to certain specifications, but with the ingredients adjusted to daily price influctuations. To operate such a machine requires technicians able to wire it according to the variables involved, to run it, to make adjustments and, perhaps, to repair it.

Work Experience: A Part of Training

An essential part of any vocational training program is some kind of related work experience. In the past, work experience programs have taken several forms--including supervised farming programs on students' home farms, cooperative work experience in business or industry under which students work for a specified number of hours per week and, in areas such as machine shop or auto mechanics, the school work shop. No doubt, training for non-farm agricultural business or industry will follow one or more of the traditional patterns--with, perhaps, some modification as to details of organization and operation.

It seems likely that greater use will be made of land laboratories to provide work experience for non-farm students. Greenhouses will be used to provide appropriate experiences for some students. Greater use will be made of school shops and laboratories to provide needed experiences in shop and office practice. In addition, a wide variety of plans for providing cooperative work-experience activities will be developed. These will take into consideration the seasonal nature of some kinds of experiences, the varieties of training needed for some programs--and the consequent need for varieties of work experiences--and the variations in hours of work to be required per day or per month. In all cases, adequate supervision and coordination of this part of the training program will be required.

As teachers and administrators use material in this report to develop their courses and programs, we shall be interested in their experiences, reactions, and appraisals. In the rapidly changing era in which we are living, the need for training makes it imperative that we develop, as rapidly as possible, adequate training programs, effectively administered, and based on sound educational philosophy.

Summary

There is no question as to the need for training present and prospective workers for non-farm agricultural business and industry. The need has been amply demonstrated by many studies conducted throughout the United States. There is also sufficient evidence of a need for trained workers for non-agricultural business and industry to justify appropriate training for these occupations. The approach used in this study to determine "what to teach" is: (1) to determine what functions are performed by the industry as a whole; (2) to determine what competencies are required to perform these functions; (3) to identify the understandings, skills, and abilities which are needed for adequate performance; and (4) to organize these understandings, abilities, and skills into instructional units with subject matter geared to the level of the individuals or groups to be taught.

Experts associated with the feed industry in Michigan assisted in developing lists of the functions and the competencies of their industry. These lists were validated by a jury representing a large proportion of the Michigan feed industry. The identified activities were then broken down into lists of understandings, skills, and abilities. These lists were submitted to vocational agriculture teachers for their consideration and acceptance. Following acceptance by the teachers, the understandings, skills, and abilities were clustered into instructional experiences and activities. These clusters are presented in Tables 10-18 of Appendix B. Tables 1-9 of Appendix A list the functions, competencies, and understandings, skills, and abilities associated with the feed industry.

Conclusions

The major general conclusions which follow from this study are:

1. An analysis of a total industry in terms of the functions performed, the competencies needed to perform these functions, and the understandings, abilities, and skills underlying the competencies needed for adequate performance of the functions is a productive approach for identifying subject matter or content useful for training present and prospective workers for non-farm agricultural businesses and industries.

2. Based on the data secured in this study, training programs can be developed to prepare workers for employment in the feed industry. The level at which the training is to be geared will be determined by the background, the experience, and the previous training of individuals in the program. Understandings, skills, and abilities which are identified and listed in this study can be adjusted to meet the needs of different educational levels of students--from those with no previous training or experience, to the post-baccalaureate.

3. The competencies and their underlying understandings, abilities, and skills, and the related instructional experiences and activities listed in Tables 10-18 of Appendix B provide a basis for developing training programs which prepare workers for the feed industry.

Appendix A

FUNCTIONS, COMPETENCIES, AND THE UNDERSTANDINGS, SKILLS, AND ABILITIES ASSOCIATED WITH THE FEED INDUSTRY

Tables 1-9 indicate:

1. Ratings by representatives of the feed industry of competencies under each function.
2. Response of teachers regarding adequacy of understandings, skills, and abilities for development of the competencies.

NOTE: In the following tables, function is indicated in the title of each table. Competencies are indicated as major headings in the outline as A, B, C, etc. Understandings, skills, and abilities are identified by arabic numerals as 1, 2, 3. Sub-headings suggest content included in the understanding, skill, or ability category.

Table 1

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE PROCESSING FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Understands and interprets MDA and USDA requirements concerning feed processing	3.83		
1. Develops an understanding of MDA and USDA feed laws			
a. State inspection service			
b. System of dating and tagging			
c. Ingredients			
d. Digestible protein			
e. Crude protein			
f. Carbohydrates			
g. Fats			
h. Additives			
i. Mineral			
j. Concentrates			
k. State specifications			
2. Develops an understanding of USDA specifications			
3. Is aware of the various types of feeds and their purposes			
a. Understands the changes in feed requirements of growing animals reflected in types of feed			
1) Fine and coarse feeds			
2) Growing and fattening feeds			
3) Nursing feeds			
4) Laxitive feeds			
5) Production feeds			
6) Special nutritional feeds			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12 Yes	No
4. Has ability to blend animal feeds a. Consistent and accurate b. According to purpose c. Calculate ingredients d. Performs operations necessary to grind, roll, pellet, wafer and crimp			
Will Items 1-4 adequately develop the competency suggested in Item A?		12	0
B. Develops an alertness to new opportunities for the business	3.83		
Keeps in personal touch with research being conducted in the area of feeds and feeding	3.58		
1. Keeps and uses an up-to-date library a. Professional journals b. Farm magazines c. Special newsletters d. Trade journals e. Research reports of experiment stations f. Experiment station bulletins and USDA bulletins			
2. Systematically checks with the non-written sources of information a. Professional meetings b. In-service training sessions c. Farming meetings			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
d. Adult class (vo-ag and extension)			
e. Company meetings			
f. Special subject meetings			
3. Know the activities of similar businesses			
4. Secure information from customers about:			
a. Services now being rendered			
b. Additional services desired			
5. Sets and follows a systematic plan for visiting the following:			
a. State research farms			
b. State research substations			
c. Field days-commercial and educational			
d. Commercial companies			
Will Items 1-5 adequately develop the competency suggested in Item B?		12	0
C. Records what is received, location of its storage, quality and condition, and keeps a running inventory	3.66		
Determines the acceptability of storage conditions	3.58		
Determines when feed is "Safe" to store or feed	3.41		
Receives and stores grain and feed ingredients	3.33		

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
1. Receives ingredients			
a. Checks for quality and conformity to the requirements			
1) Undesirable and foreign materials			
2) Weight			
3) Moisture			
4) Mineral			
5) Uniformity			
6) Color			
7) Damage			
b. Determines "store ability"			
2. Stores ingredients and feed			
a. Store only with like quality and product			
b. Check storage bins and other possible contaminations			
c. Aware of the proper storage conditions for the ingredients and the product			
d. Is aware of appearance and conditions of "bad-spoiled" products and ingredients			
e. Stores in a location convenient for the blending (manufacturing) and shipping processes			
1) Distance from point of use			
2) Method of receiving and shipping			
3) Method of transportation to the blending process			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
4) Sequence 5) Amount used f. Knows storage characteristics of ingredients and products g. Follows a systematic process of inspecting storage bins for: 1) Capacity 2) Safety 3) Condition of stored ingredients or products 4) Moisture 5) Rodents 6) Age of stored ingredients or products 7) Stored grain tests			
3. Follow a systematic plan of caring for stored feed a. Inspects b. Move (turns feed and ingredients) c. Provides ventilation and aeration where needed			
4. Follow a systematic plan for using feeds a. Maintain adequate records b. Use older ingredients and products first			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
5. Maintain adequate inventory records a. Receives ingredients 1) Quantity, quality, condition 2) Date received 3) Location b. Store ingredients and products 1) Quantity, quality, condition 2) Amount total and in each bin of each ingredient 3) Date put in storage 4) Source			
Will Items 1-5 develop the competency suggested in Item C?		12	0
D. Plans programs for handling materials at lowest cost	3.66		
1. Has plant design to handle products efficiently considering: a. Labor b. Transportation of ingredients c. Output of machinery d. Availability of machinery e. Shipping and receiving methods			
2. Keeps record so that the following may be calculated a. Cost per package of each type of feed			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Labor efficiency c. Return per package			
3. Is alert to new techniques-machines reported in trade journals			
4. Is aware of the method of materials handling			
Will Items 1-4 develop the competency suggested in Item D?		12	0
E. Develops efficient processing techniques and trouble shoots problems encountered	3.66		
1. Is able to determine: a. Cost of production per unit b. Efficiency c. Labor requirements			
2. Is familiar with the various methods of efficiency in handling the materials within the plant a. Gravity feed b. Machine requirements c. Soft materials d. Hard materials			
3. Can combine the above items 1 and 2 into an efficient system			
4. Is familiar with the process from raw material to finished product			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Item N=12	
		Yes	No
a. Is familiar with the operation of all machines b. Is familiar with each step in the process c. Is familiar with all jobs in the process			
5. Maintains a record and files of: a. normal troubles b. equipment history c. maintenance schedules d. operational and maintenance manuals			
Will Items 1-5 develop the competencies suggested in Item E?		12	0
F. Understands and interprets feed formulas and procedure for mixing them	3.41		
1. Develops an understanding of the types of feed formulas used by the company a. Fine and coarse feeds b. Growing and fattening feeds c. Nursing feeds d. Laxitive feeds e. Production feeds f. Special nutritional feeds			
2. Knows the ingredient of each feed blended by the company			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Item N=12	
		Yes	No
a. Ingredients (quantity and quality) b. Sequence of the process c. Analysis of each feed			
Will Items 1-2 develop the competency suggested in Item F?		11	1
G. Keeps storage equipment in proper repair 1. Is familiar with the storage equipment 2. Maintains files of: a. Operational manuals b. Maintenance manuals 3. Follows the recommended maintenance procedures 4. Keeps record of: a. Normal mishaps or breakdowns b. Maintenance and repairs performed; date and nature of the work performed c. Equipment history			
Will Items 1-4 adequately develop the competency suggested in Item G?		12	0
H. Records and reports daily consumption of feed ingredients, amounts of feed processed, kinds of packaging and disposal or storage	3.41		

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Item N=12	
		Yes	No
1. Maintains daily records of a. Input of feed ingredients b. Output of processed feed c. Disposition			
Will the above Items develop the competency suggested in Item H?		10	2
I. Keeps abreast of the activities of the business	3.33		
1. Attends appropriate meetings of company personnel			
2. Is acquainted with company personnel			
3. Reads all company reports			
4. Is familiar with company projection plans			
5. Has periodic conferences with other department heads a. Is aware of their problems b. Is aware of the relationship between departments			
Will Items 1-5 develop the competency suggested in Item I?		12	0

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
J. Adjusts mill machinery to meet processing specifications	3.33		
1. Is familiar with the specifications of each type of feed processed or blended			
2. Is able to adjust the mill machinery to meet the processing specifications a. Grinding b. Mixing c. Blending d. Rolling e. Pelleting f. Crimping g. Packaging			
Will Items 1-2 develop the competency suggested in Item J?		12	0
K. Performs mill operations, such as grinding, mixing, and packaging	3.33		
1. Knows the mill operations performed a. Grinding b. Mixing c. Blending d. Rolling e. Pelleting f. Crimping g. Packaging			
2. Has ability to perform each operation a. Is familiar with each operation as a process			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Is familiar with the equipment of each operation c. Has experience in each operation			
Will Items 1-2 develop the competency suggested in Item K?		12	0
L. Keeps processing and mixing equipment in proper repair	3.25		
1. Is familiar with the processing and mixing equipment			
2. Maintains files of operational and maintenance manuals			
3. Follows recommended maintenance procedures			
4. Keeps records of: a. Normal mishaps and breakdowns b. Maintenance and repairs performed, date and other pertinent equipment history			
Will Items 1-4 adequately develop the competency suggested in Item L?		11	1
M. Sacks, packages and labels according to specifications	3.25		
1. Know the packaging and labeling specifications a. Type of tag or label required			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Date, code, and other needed information			
2. Has ability to perform operations of: a. Sacking b. Packaging c. Labeling			
Will Items 1-2 develop the competency suggested in Item M?		11	1
N. Plans and schedules processing operations	3.25		
1. Understands and interprets the needs and forms of the sales department			
2. Knows output capacities of the various machines of the plant			
3. Knows the production requirements of each item a. Labor b. Time c. Materials			
4. Calculates the ingredients required for each feed operation			
5. Is familiar with each production process so that a. Efficient use of machine is planned			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Repetition of operations are reduced c. Unnecessary mill adjustments are reduced d. Alterations in the processes are reduced e. Continuous operation is possible			
Will Items 1-5 develop the competency suggested in Item N?		12	0
O. Samples and tests feed stuffs for conformity to desired specifications	3.00		
1. Sets up a system for quality control a. Provides for a sample and test of ingredients b. Provides for the sampling and testing of products			
2. Is familiar with the desired specifications			
Will Items 1-2 develop the competency suggested in Item O?		11	1
P. Cleans and fumigates storage facilities			
1. Sets up and follows systematic plan for cleaning and fumigating storage facilities a. Use of safe products			

Table 1--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Knows how often to be accomplished c. Knows storage "habits" of product			
Will Item 1 develop the competency suggested in Item P?		12	0
Q. Reads and interprets trade journals			
1. Has access to trade journals			
2. Reads the trade journals			
3. Seeks clarification of appropriate points not fully understood			
4. Plans for testing and implementation of sound ideas and practices			
5. Keeps up-to-date on new machinery			
Will Items 1-5 adequately develop the competency suggested in Item Q?		12	0

Table 2

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE SALES FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Assists farmers in planning programs and trouble shoots his feeding problems	3.91		
1. Is familiar with the nutritional requirements of all types of growing animals			
2. Is familiar with the various systems of handling feed on the farm			
3. Is familiar with the various methods of feeding animals			
4. Is able to recognize feeding problems			
5. Is able to systematically analyze the feeding situation to determine its efficiency, management factors and the like			
6. Is familiar with the management trends of the feed business			
Will items 1-6 develop the competency suggested in Item A?		12	0
B. Assists local dealers in promoting use of specific feeds by local producers	3.58		

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
1. Is familiar with the types of animals and feeds normally used in the local dealers area			
2. Is familiar with the feeding problems normally encountered by the local dealer			
3. Is familiar with all the feeds of the business			
4. Acquaints the local dealer with all new feeds of the business			
5. Encourages the local dealer to acquaint their customers with the use of specific feeds for specific jobs			
Will Items 1-5 develop the competency suggested in Item B?		12	0
C. Sells direct to producer	3.50		
Sells directly to farmers on the farm	3.25		
1. Becomes acquainted with the producers in the business area and with their needs and problems			
2. Visits the producers of the business area on a systematic follow-up basis to work with them on feeding programs and special problems related to their operation			

Table 2-- Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Becomes familiar with the needs and problems of the producer in the business area			
4. Encourages producers to place orders for feed and other products			
Will Items 1-4 develop the competency suggested in Item C?		11	1
D. Assists producers with individual problems by reviewing the specific situation	3.25		
1. Encourages the producers to keep appropriate records			
2. Encourages the producer to analyze his farm business			
3. Review the farm business records with the producer to help him discover problems and make decisions leading to a solution of the problems			
Will Items 1-3 develop the competency suggested in Item D?		11	1
E. Follows up on results obtained by customers and reports these to the management of the business	3.50		
1. Visits each producer on a systematic basis			

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
2. Follows up the visits and checks for progress on previously identified problems			
3. Files follow up reports with management			
Will Items 1-3 develop the competency suggested in Item E?		11	1
F. Sells directly to customers across the counter in an informative manner without misrepresentation	3.50		
1. Is neat in personal appearance			
2. Knows the products that he sells			
3. Knows and follows the techniques of good customer-sales relationships			
4. Is familiar with the normal problems encountered by the customers, especially with new products			
5. Answers inquiries as objectively as possible			
6. Knows and follows good salesmanship practice			
Will Items 1-6 develop the competency suggested in Item F?		12	0

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
G. Solicits local dealers to sell company products	3.50		
1. Acquaints the local dealer with all of the products sold by the company			
2. Encourages the local dealer to stock those items that are likely to sell			
3. Develops techniques with the local dealer for promoting new products			
Will Items 1-3 develop the competency suggested in Item G?		11	1
H. Recognizes abnormal and detrimental practices and animal health conditions	3.50		
1. Understands the relationship of farm sanitation to feed efficiency and animal health			
2. Understands the effect of management-feed-health results			
3. Is able to identify major disease symptoms			
Will Items 1-3 develop the competency suggested in Item H?		12	0

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
I. Assists local dealers in promotional campaigns, and feed and grain clinics for livestock feeders	3.50		
1. Is familiar with the products of the company			
2. Is familiar with promotional techniques			
3. Performs an inventory to determine items that spend too much time on the shelf			
4. Can design a promotional campaign for new products			
5. Is acquainted with the livestock feeders of the area			
6. Is familiar with the special problems of the livestock feeders of the area			
7. Can design a teaching program to use in feed and grain clinics			
8. Can organize a feed and grain clinic			
Will Items 1-8 develop the competency suggested in Item I?		12	0

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
J. Develops reputable company rapport with dealers through honest representation of products	3.41		
1. Knows the products of the business			
2. Knows and follows good techniques in company dealer-relationships			
3. Is objective as possible in representation of products			
4. Keeps in constant touch with the local dealer and understands his problems			
Will Items 1-4 develop the competency suggested in Item J?		12	0
K. Helps farmers to arrange credit and accepts responsibility for the collection of accounts receivable	3.33		
1. Is familiar with the sources of credit available to farmers			
2. Can develop and analyze a net worth statement			
3. Understands and is able to evaluate the limiting factors associated with the extension of credit such as:			

Table 2--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
a. Ability to pay b. Management ability c. Personal traits d. Family characteristics			
4. Understands company and local dealer credit policies and practices			
5. Is able to analyze the credit risk of the customer			
6. Establishes a procedure for collecting accounts receivable in line with company credit policy			
Will Items 1-6 develop the competency suggested in Item K?		12	0
L. Evaluates and disseminates other tried and tested program techniques and efficiency ideas	3.16		
1. Makes constant use of written and non-written sources of information			
2. Keeps a file of new techniques, programs and ideas			
3. Utilizes these new techniques and ideas when helping local dealers and farmers in developing alternatives to their present operation			
Will Items 1-3 develop the competency suggested in Item L?		12	0

Table 3

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE SERVICE FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Recommends feeds and rations to be used in specific farm situation	3.91		
1. Understands animal nutrition including			
a. Principles of nutrition			
b. Functions of feed ingredients			
c. Elements found in animal feeds			
d. Growth patterns and changing nutritional requirements of farm animals			
2. Is familiar with feed ingredients common to the area			
3. Understands the relationship of kinds of feeds to management practices			
a. Effect of management practices to feed efficiency			
b. Relationship of cost factors			
c. Relationship of farm sanitation			
4. Ability to adjust feed purchases to feed supplies on farm			
a. Roughage and pasture of the farm			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Grains produced on the farm			
c. Mineral deficiencies common to area			
5. Is familiar with the producers and factors associated with formation of rations			
a. Commercial feeds			
b. Farm formulated feeds			
c. Most efficient combination of available feed ingredients			
6. Ability to prepare and submit appropriate reports			
a. Recommendations to farmers			
b. Mileage reports			
c. Follow-up of commitments			
d. Drafting an itinerary			
e. Expense accounts			
7. Has a working vocabulary of common terms such as:			
a. Roughage			
b. Pasture			
c. Concentrate			
d. Supplement			
e. Mineral			
f. Protein			
g. Carbohydrate			
h. Vitamin			
i. Water			
j. Additive			
k. Ration			
Will Items 1-7 develop the competency suggested in Item A?		12	0

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
B. Works with local dealers on problems concerning extension of credit to customers	3.75		
1. Familiar with the sources of credit available to farmers a. Local banks b. Local dealers c. Production Credit Association d. FHA e. Other			
2. Can make up and analyze a net worth statement			
3. Understands and is able to evaluate the limiting factors associated with the extension of credit such as: a. Ability to pay b. Management ability c. Personal traits d. Family characteristics e. Personal character			
4. Becomes familiar with company credit policy and practice			
5. Is able to analyze credit risk of customers			
Will Items 1-5 develop the competency suggested in Item B?		11	1

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
C. Keeps abreast of developing trends, new developments and new farm technology	3.66		
1. Is familiar with sources of information related to the feed industry and associated fields			
a. Professional journals			
b. Farm magazines			
c. Special newsletters			
d. Trade journals			
e. Research reports of experiment stations			
f. Experiment stations and United States Department of Agriculture bulletins			
2. Makes use of the non-written sources of information			
a. Professional meetings			
b. In-service training sessions			
c. Farm meetings			
d. Adult classes (vo-ag and extension)			
e. Company meetings			
f. State and national conventions			
g. Special subject meetings			
3. Understands the relationship and dependence of the feed industry on the total operation of farmers			
Will Items 1-3 develop the competency suggested in Item C?		11	1

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
D. Promotes the use of company products by encouraging their use by farmers	3.58		
1. Is familiar with the line of company products			
a. Knows their costs			
b. Recognizes their advantages			
c. Understands their limitations			
d. Is familiar with recommendations of the company and the manufacturer			
2. Is able to show customers the merits of the company products			
a. Shows and interprets research data regarding feeding of livestock and poultry			
1) Uses industry conducted research data			
2) Uses experiment station research data			
3. Is familiar with accepted practices in regard to new customers			
4. Is familiar with the location of customers			
5. Is alert for new customers			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
6. Is alert to new products			
Will Items 1-6 develop the competency suggested in Item D?		11	1
E. Exhibits alertness and sensitivity to situations in which a service can be rendered	3.58		
1. Becomes familiar with the problems of the customer a. Helps farmers consider all alternatives b. Helps farmers select the best alternatives c. Helps local dealers with techniques of assisting their customers in reaching desirable decisions			
2. Knows the community served by the local dealer a. Location of all customers b. Key personnel in the community c. Organizations in the community			
3. Becomes aware of the growth patterns of the community a. New industries b. New people c. Alteration of existing patterns			
4. Is alert to new company products			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
5. Is alert to and promotes new uses of company products a. Watch for ideas as to how these products are used on the farm b. Talks with customers in feed stores c. Spreads the word of ideas gathered to others who may be interested			
Will Items 1-5 develop the competency suggested in Item E?		12	0
F. Speaks at farmers' meetings on problems of nutrition and feeding	3.58		
1. Offers services for adult meetings held in the area a. Vo-ag b. Cooperative Extension Service c. Other			
2. Becomes acquainted with the personnel a. People who attend b. People who conduct the meetings			
3. Is aware of the feeding and nutritional problems common to the area a. Local peculiar problems			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
b. Normal problems of the livestock and poultry industry			
Will Items 1-3 develop the competency suggested in Item F?		11	1
G. Promote farm automation and encourages farmers to adapt new techniques to their farms	3.50		
1. Is familiar with methods of improving the efficiency of the feed industry			
a. Is able to conduct time-motion studies where needed			
b. Understands methods of handling feeds			
c. Understands methods of housing animals			
d. Understands proper methods of management of livestock and poultry			
e. Understands accepted methods of management of livestock and poultry			
2. Keeps up to date on new developments in agriculture particularly in the livestock and poultry business			
a. Professional journals			
b. Farm magazines			
c. Special newsletters			
d. Trade journals			
e. Research reports of experiment stations			
f. State and USDA bulletins			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Attends conventions, exhibits and meetings related to the feed industry to secure new ideas			
4. Is aware of the adoption process followed by farmers in accepting new ideas and techniques a. Awareness b. Interests c. Evaluation d. Trial e. Adoption or rejection			
5. Is aware of the sources of information for farmers a. Mass media b. Government agencies c. Friends and neighbors d. Salesmen e. Teachers of Vocational Agriculture			
Will Items 1-5 develop the competency suggested in Item G?		12	0
H. Works with local dealers in the promotion and sales of the feeds in his organization	3.41		
1. Knows the products of the company			
2. Is familiar with proper feed handling methods to be employed by a successful local dealer			
3. Is familiar with the feeds needed in the local area			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
4. Knows acceptable promotional methods a. Visits to farm or local dealers b. Exhibits c. Displays d. Handouts e. Advertising f. Billboards g. Demonstrations h. Field trials			
5. Knows and practices acceptable sales techniques			
Will Items 1-5 develop the competency suggested by Item H?		11	1
I. Assists producers in solving feeding and related problems	3.41		
1. Is familiar with the feeding problems of the customer and of others in the area			
2. Knows the feeding problems generally associated with local livestock and poultry enterprises			
3. Knows the resource persons that are available to help solve special problems related to livestock and poultry enterprises			
4. Understands the relationship of sound management practices to the results secured from feeds			

Table 3--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
a. Efficiency b. Housing c. Sanitation d. Health of animals			
5. Is able to identify disease symptoms a. Internal parasites b. External parasites c. Viruses d. Skin disorders e. Infections f. Others			
Will Items 1-5 develop the competency suggested in Item I?		11	1
J. Keeps local dealers informed regarding problems most frequently encountered on farms	3.08		
1. Is alert to identifying problems as he visits the farm			
2. Has ability to prepare and submit appropriate reports a. Recommendations to the customer b. Report of other areas which were not discussed with the customer			
3. Performs periodic evaluations of the types of problems encountered			
Will Items 1-3 develop the competency suggested in Item J?		11	1

Table 4

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE OFFICE FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Provides records and data required by his supervisor and in an acceptable form	3.83		
Provides information to his supervisor about the organization, its products and services	3.00		
1. Sets up a filing system			
a. Follow an established form			
b. File all receipts, letters, documents, specifications and orders			
2. Familiarizes himself with the filing system used			
3. Keeps up to date on the organization patterns and possible changes			
4. Is familiar with all of the products and services of the company			
5. Is familiar with the business forms of the company			
6. Periodically and systematically reviews the company's progress			
7. Evaluates the progress in terms of prior expectations			

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
8. Investigates new areas for services and products			
9. Provides reports			
10. Has periodic conferences with his supervisor			
Will Items 1-10 develop the competency suggested in Item A?		12	0
B. Maintains a cooperative spirit and sense of loyalty among colleagues	3.66		
1. Has ability to get along with his fellow workers			
a. Speaks to fellow workers			
b. Sees that contact is made with each fellow worker following a definite schedule			
c. Shows an interest in their problems			
2. Is loyal to fellow workers			
a. Supports fellow workers in times of crisis if support is justifiable			
b. Does not talk about or gossip about fellow workers			
c. Distinguishes rumor from fact			
d. Does not spread rumors			
Will Items 1-2 develop the competency suggested in Item B?		12	0

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
C. Establishes approved systems of collecting accounts receivable 1. Familiarizes himself with bookkeeping procedures used by the company 2. Follow the systematic system for accounts a. Recording after sales b. Send statements on a regular basis c. Follow up delinquent accounts d. Have a policy for those accounts that remain outstanding	3.66		
Will Items 1-2 develop the competency suggested in Item C?		12	0
D. Makes periodic summarization of the business for purposes of analysis 1. Is familiar with the business forms, procedures and policies of the company 2. Makes a periodic systematic summary of the business 3. Analyzes the business for trends, weaknesses and strengths	3.58		
Will Items 1-3 develop the competency suggested in Item D?		12	0

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
E. Works with employees in maintaining morale	3.50		
1. Maintaining effective working conditions a. Physical conditions b. Social conditions			
2. Set up to receive and follow up an employee's suggestions			
3. Be alert to rumors			
4. Have a fair promotion and reward system			
5. Have an equitable system of benefits			
Will Items 1-5 develop the competency suggested in Item E?		12	0
F. Performs administrative duties in line with established and accepted organizational policies	3.41		
G. Determines policy concerning wages, hours, and benefits	3.41		
1. Develops a fair and equitable policy for wages a. Beginning b. Advances c. Over-time			
Will Item 1 develop the competencies suggested in Items F and G?		10	0

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
H. Evaluates and commends worker performance 1. Follow a systematic plan for evaluation of work performance a. Fair b. Frequency c. In all work situations of the employee d. Confers with workers frequently	3.33		
Will Item 1 develop the competency suggested in Item H?		11	1
I. Establishes and uses approved systems of cost accounting 1. Is familiar with the systems of cost accounting 2. Can evaluate the systems and select the one best suited to the business 3. Can keep the required records, reports and data of the cost accounting system	3.33		
Will Items 1-3 develop the competency suggested in Item I?		12	0
J. Recommends changes in procedure which increase organizational efficiency 1. Makes organizational charts	3.25		

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
2. Projects organizational charts in light of trends and forecasts			
3. Studies organizational set up for efficiency			
4. Suggests changes that would improve service for efficiency			
Will Items 1-4 develop the competency suggested in Item J?		12	0
K. Clearly instructs employee as to what work is expected of him	3.25		
1. Becomes familiar with all jobs of the company			
2. Instructs the employee as to the why and how of the job			
3. Follow up to see that employee is growing into the expected job performance			
Will Items 1-3 develop the competency suggested in Item K?		12	0
L. Supervises personnel and coordinates their work within departments	3.25		
1. Knows each employee			
2. Is familiar with work of each employee			

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Is able to conduct supervision openly, fairly, and systematically			
4. Is familiar with the work of each department			
5. Is able to organize the work of each department and each worker in the department so that the workers and departments compliment each other			
Will Items 1-5 develop the competency suggested in Item L?		12	0
M. Delegate authority to employee to the extent he can satisfactorily work expected of him	3.25		
Delegate authority to workers in best interest of total operation	3.08		
1. Know work load and job description of each employee in his regular job			
2. Delegate the responsibility and authority necessary for the job			
3. Do not delegate more responsibility and authority than is needed to do the job			
Will Items 1-3 develop the competency suggested in Item M?		12	0

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
N. Keeps employees informed concerning general policies related to operation	3.25		
1. Has an established general policy for the business			
2. Permits the policy to be known to employees			
3. Discusses any policy misunderstandings with employees			
4. Makes known any changes in general policy			
Will Items 1-4 develop the competency suggested in Item N?		12	0
O. Helps to maintain complete and accurate record files	3.16		
1. Becomes familiar with all company records			
2. Becomes familiar with the filing system of the company			
3. Insures that a file copy of each transaction is completed			
4. Insures that a copy of each transaction is filed			
Will Items 1-4 develop the competency suggested in Item O?		12	0

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
P. Maintains line of communication within the company organization	3.16		
1. Insures that employees have contacts with their supervisors			
Will Item 1 develop the competency suggested in Item P?		11	1
Q. Works with employees on the promotion of sales	3.16		
1. Is familiar with each of the products			
2. Is familiar with the sales outlets-customers of the business			
3. Is familiar with promotional techniques a. Displays b. Advertisements c. Samples d. Salesmen			
4. Keeps records of sales for each employee doing sales work			
5. Diagnoses sales problems of some employees			
6. Sets up sales personnel training program for the business			

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
7. Sets up sales program for a special service product of the business			
Will Items 1-7 develop the competency suggested in Item Q?		12	0
R. Cooperates with the employees to increase job efficiency	3.16		
1. Is familiar with the job description of the employee			
2. Can perform an efficiency study of the job			
3. Asks employee for suggestions and improvements in terms of efficiency of business			
4. Works with employees to implement desired changes			
Will Items 1-4 develop the competency suggested in Item R?		12	0
S. Hears and processes grievances of workers	3.16		
1. Insures that all workers have an opportunity to be heard			
2. Sees to it that all grievances are acted upon			

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Reports all grievances to appropriate persons			
4. Insures that persons reporting grievances be informed as to the action being taken			
Will Items 1-4 develop the competency suggested in Item S?		12	0
T. Applies modern principles and concepts of accounting	3.08		
1. Is familiar with the accounting systems of the business			
2. Studies newer concepts and methods of accounting			
3. Suggests appropriate concepts of accounting for implementation into the business			
Will Items 1-3 develop the competency suggested in Item T?		12	0
U. Interviews and hires new personnel, orients new workers and makes them feel a part of the organization	3.00		
1. Keeps track of personnel needs of business			
2. Is familiar with the requirements that prospective employees should have for the job in the business			

Table 4--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Is familiar with the sources of new personnel			
4. Conducts an interview with prospective personnel			
5. Evaluates the prospective personnel in light of job requirements			
6. Is familiar with the job description of new personnel			
7. Provides for a period of systematic orientation to the business for all new personnel			
8. Insures that the new personnel meet all of their fellow workers, supervisors and office personnel			
9. Provides for a systematic follow-up and personal contacts with new personnel			
Will Items 1-9 develop the competency suggested in Item U?		12	0

Table 5

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE RELATIONS FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Visits local dealers and assists them in solving their management problems as well as those involving customer relations	3.50		
1. Keeps aware of the problems of the business			
2. Knows how to work with people			
3. Is familiar with good human relations practices			
4. Can analyze the management problem			
5. Can analyze the customer relations problem			
6. Is familiar with methods of improving customer relations			
Will Items 1-6 develop the competency suggested in Item A?		12	0
B. Prepares and delivers talks related to the feed industry at dealer associations and at farmer and farm youth meetings	3.41		
1. Has an understanding of the entire feed industry			
2. Keeps aware of the changing problems in the business			

Table 5--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Has the ability to prepare talks a. Outline-purpose of talk b. Review materials c. Organize the materials			
4. Is familiar with aids and methods of conveying the talk to groups using such items as visual, models and other aids			
5. Is familiar with some techniques of delivery			
6. Offers services to groups in the business area			
7. Is aware of the differences existing between interests and age groups and is able to consider these in planning a talk			
Will Items 1-7 develop the competency suggested in Item B?		10	2
C. Plans tours of interest to dealers and farmers	3.33		
1. Keeps up to date on the events and activities being conducted			
2. Is aware of the interests of the dealers and farmers			

Table 5--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Has an understanding of how to plan a tour a. Contacts persons having the activities b. Contacts farmers, agricultural education leaders and farm organization personnel c. Arranges for transportation			
Will Items 1-3 develop the competency suggested in Item C?		10	2
D. Visits livestock producers to determine their understanding of relationship between the livestock industry and the feed industry	3.16		
1. Knows the names, addresses and location of the major livestock producers in the business area			
2. Is acquainted with the operation-management strengths-weaknesses of the producer			
3. Plans and periodically conducts a systematic visit to each producer in the business			
4. Keeps a record of each visit			
5. Identifies problems of producers			

Table 5--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
6. Works with producers in solving their problems			
Will Items 1-6 develop the competency suggested in Item D?		11	1
E. Initiates, plans and conducts educational seminars and farmer conferences and clinics	3.08		
1. Has an understanding of the entire feed industry			
2. Keeps aware of the trends and changing problems in the business			
3. Establishes the idea of seminar with the appropriate groups			
4. Can prepare a seminar-conference paper a. Outline-purpose b. Review of materials c. Organization of materials for presentation			
5. Is familiar with aids, materials and methods that help in presentation			
6. Is familiar with group discussion techniques			
Will Items 1-6 develop the competency suggested in Item E?		12	0

Table 5--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
F. Prepares materials suitable for in-service training and professional up-grading of personnel	3.08		
1. Is familiar with the problems and trends of the business			
2. Is acquainted with all of the jobs of the business			
3. Is acquainted with problems encountered by most employees as they progress on the job and with the company			
4. Reviews journals, magazines and conference reports for ideas			
5. Can organize material geared for a learning situation (rather than a telling situation)			
6. Has the ability to write material to be used in a learning situation			
Will Items 1-6 develop the competency suggested in Item F?		11	1
G. Meets and cooperates with related agricultural agencies in developing solutions to the problems of farmers	3.00		
1. Becomes acquainted with the agricultural agencies and their personnel			

Table 5--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
2. Offers services to the agricultural agencies			
3. Meets the agricultural agencies personnel on a periodic basis to discuss common problems			
4. Knows the functions of each agency			
Will Items 1-4 develop the competency suggested in Item G?		11	1

Table 6

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE PURCHASE FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Determines purchase price based on market reports, grade and transportation differential	3.91		
1. Develops an understanding of market reports			
a. How many reports and the groups from which they came			
b. How often issued			
c. Types of reports issued			
d. Has an understanding of the format			
e. Has an understanding of the terms used			
2. Develops an understanding of the factors involved and adjusting the market report to business use			
a. Grade or quality of material used in the company			
b. Knows the weekly, seasonal, changing requirements of the company			
c. Is familiar with the quality of each material used by the company			
d. Is familiar with the normal sales			
e. Anticipates special needs of the company			

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Develops a working knowledge of the sources of products a. Is familiar with the salesmen who call on the company representatives b. Is familiar with the other companies c. Is familiar with alternative sources of information 4. Develops an understanding of how to determine the purchase price a. Quantity needed b. Expected sales price of product c. Possible substitute of equal quality d. Possible bulk, company or other discounts e. Shipping and freight costs f. Market outlook			
Will Items 1-4 develop the competency suggested in Item A?		11	1
B. Purchases ingredients for mixed feeds from suppliers 1. Has a working knowledge of who the suppliers are 2. Can determine the purchase price	3.66		

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Knows the company requirements in terms of quality, quantity, and possible substitutions 4. Can interpret the records and forms used for ordering			
Will Items 1-4 develop the competency suggested in Item B?		11	1
C. Directs mixing of grain in local elevator to meet specifications of the buyer	3.66		
1. Is familiar with the requirements of the buyer a. Type of feed desired b. Type of milling process desired c. Quality of feed desired 2. Is familiar with the mixing process a. Knows the ingredients b. Knows the sequence of mixing c. Knows the operation and adjustment of the machinery 3. Has the ability to operate and supervise the mixing process			
Will Items 1-3 develop the competency suggested in Item C?		12	0

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
D. Records volume purchased, condition, grade, price, source, transportation, freight, and insurance	3.50		
Arranges for receipt of grain and feedstuffs, including storage facilities, recording quantity of materials condition, cost and how handled	3.41		
1. Keeps accurate record of purchase a. Amount purchased b. Quality c. Source d. Cost e. Transportation method f. Freight costs g. Insurance			
2. Arranges and makes provision for appropriate receipt of items a. Amount received b. Quality c. Cost d. Source e. Method of receiving f. Condition upon receipt			
3. Keeps accurate record of the distribution of grain and feedstuffs and of the products			
Will Items 1-3 develop the competency suggested in Item D?		11	1

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
D. Buys specified kinds, quality and grades of grain	3.41		
Bargains with seller to buy at best possible price	3.33		
1. Is familiar with the sources of grain, feedstuffs and products			
2. Is familiar with the type and quality of grain to be purchased			
3. Is familiar with the normal classification of grain a. Type b. Grade			
4. Can determine and compare prices of possible purchase of grain from different sources a. Comparison of most grain per unit b. Discounts c. Transportation and insurance costs			
5. Can engage in a bargaining process a. Has ability to perceive emotions of people b. Has ability to "size up" situations and make correct decisions c. Has ability to bargain with "facts" not "passion"			

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
d. Determines and considers alternatives before making decisions			
Will Items 1-5 develop the competency suggested in Item E?		12	0
F. Arranges for deliveries and modes of transportation	3.41		
1. Is familiar with costs of deliveries a. Method b. Distance			
2. Is familiar with the methods used by the company for deliveries a. Company truck b. Rail express c. Mail d. Air freight e. Motor freight			
3. Can fill out the appropriate delivery forms a. Name, address, phone, destination b. To whom bill c. Quantity to ship d. Method of shipment e. Quality-type f. Special delivery instructions g. Size of unit			
4. Is familiar with the company delivery schedule			
Will Items 1-4 develop the competency suggested in Item F?		12	0

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
G. Determines prices to offer for grain and feedstuffs based on knowledge of outlook and future trends 1. Knows the factors on which the offering prices is based a. Use to be made of grain and feedstuffs b. Quality c. Possible quantity discount d. Who pays shipping cost e. Supply conditions f. Number of sources from which the grain or feedstuffs are available g. Changing market conditions - outlook 2. Can determine the price considering the above factors	3.33		
Will Items 1-2 develop the competency suggested in Item G?		12	0
H. Studies market prices by watching grain futures 1. Understands "grain futures" 2. Keeps a record of market changes 3. Studies these for trends	3.25		
Will Items 1-3 develop the competency suggested in Item H?		12	0

Table 6--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
I. Makes effective use of telephone and telegraph to complete transactions	3.16		
1. Has good telephone manner			
2. Keeps a file of appropriate telephone numbers			
3. Keeps a complete and accurate record of telephone and telegraph commitments			
Will Items 1-3 develop the competency suggested in Item I?		11	1

Table 7

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE TRANSPORTATION FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Recommends procedures for reducing costs and increasing efficiency	3.50		
1. Is familiar with the transportation methods used by the business			
2. Keeps efficient records of the cost of the transportation used by the business			
3. Examines the records for out-of-line costs			
4. Compares the needs with other similar businesses			
5. Reads and gathers information about the transportation methods			
6. Recommends changes when advisable			
Will Items 1-6 develop the competency suggested in Item A?		12	0
B. Manages maintenance of trucks and other equipment concerned with distribution	3.00		
Plans efficient system for keeping records on the use and maintenance of vehicles	3.41		

Table 7--Continued

Competencies	Mean Rating of Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
1. Sets up and follows a systematic maintenance schedule for all vehicles and equipment 2. Keeps on file the maintenance manuals for vehicles and equipment 3. Keeps a maintenance history of all vehicles and equipment 4. Maintains a daily and annual dispatch record for each vehicle 5. Maintains operational records for all equipment			
Will Items 1-5 develop the competency suggested in Item B?		12	0
C. Determines efficiency of handling sacks, bags, boxes of feed or loose grain	3.33		
1. Keeps a record of sales and includes quantity of each item sold noting size and type of containers 2. Examines the records for cost of handling, time and labor involved 3. Adjusts transportation system and employees to obtain efficiency			
Will Items 1-3 develop the competency suggested in Item C?		11	1

Table 7--Continued

Competencies	Mean Rating of Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
D. Keeps mileage record and log of deliveries	3.25		
1. Maintains a dispatch record for each vehicle			
Will Item 1 develop the competency suggested in Item D?		11	1
E. Knows limitations of stacking sacks and other forms of packages	3.16		
1. Is familiar with each form of packaging used in the business and its handling limitations			
2. Conducts trial handling systems with the employees on delivery trucks and in the warehouse			
3. Establishes a handling system for all products used in the business			
Will Items 1-3 develop the competency suggested in Item E?		11	1
F. Drives vehicles with full understanding of their operations maintenance of safe driving procedures	3.16		
Promotes campaigns for safe driving and use of equipment	3.00		
1. Is acquainted with the operators and maintenance manuals of all vehicles and equipment			

Table 7--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
2. Is familiar with the driving characteristics of each vehicle			
3. Insures that each driver has a valid operator's license			
4. Is familiar with the operational procedures for all equipment			
5. Attends safety meetings for all new company drivers where the driving policies of the business are explained			
6. Keeps constant safety checks on all drivers and equipment operators			
7. Promotes safety through posters, signs, and a system of awards			
Will Items 1-7 develop the competency suggested in Item F?		11	1
G. Determines transportation costs on fleet of vehicles and on each individual unit	3.16		
1. Maintains a daily dispatch record for each vehicle			
2. Maintains a transportation record for the business			

Table 7--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Calculates the cost of operating the fleet and individual vehicles			
Will Items 1-3 develop the competency suggested in Item G?		12	0
H. Plans and routes most economical transportation	3.08		
Routes delivery and service trucks to retail stores, farms and dealers	3.00		
1. Keeps a record of sales that include quantity of each item sold noting size and type of container			
2. Examines records to determine the transportation needs of the business			
3. Is familiar with the service areas (territory) of the business			
4. Plans a vehicle dispatch system to provide for economical deliveries and customer conveniences			
Will Items 1-4 develop the competency suggested in Item H?		12	0

Table 8

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE RESEARCH FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
A. Establishes the physical set-up for research and plans daily and periodic routines of work	3.27		
1. Establishes the objectives of research for the business			
2. Plans and determines the physical and personal needs to carry out the research			
3. Plans each experiment in line with the objective			
4. Is familiar with the method of conducting feed industry research			
5. Secures the needed supplies and personnel			
6. Schedules the work for the employees in line with their abilities			
Will Items 1-6 develop the competency suggested in Item A?		11	1
B. Rejects the use of spoiled or damaged feed in mixing rations for research purposes	3.18		
1. Establishes a criteria for evaluating all incoming feeds to be used in research			

Table 8--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
2. Insures that all feed is carefully inspected before being considered for use in research			
3. Rejects all feeds that do not meet the criteria			
Will Items 1-3 develop the competency suggested in Item B?		11	1
C. Formulates the rations including use of Micro feeds and antibiotics	3.18		
1. Understands animal nutrition including a. Principles of nutrition b. Functions of feed ingredients c. Elements found in animal feeds d. Growth patterns and changing nutritional requirements of farm animals			
2. Understands common feed terms a. Concentrate b. Supplement c. Mineral d. Protein e. Carbohydrate f. Vitamin g. Additive h. Nutrient i. Microfeeds			
3. Can formulate rations for various animals			

Table 8--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
4. Insures that the formulated rations meet the criteria for which they are formulated			
5. Insures that the mixing and grinding machines are not contaminated			
6. Insures that the microfeeds are mixed thoroughly and pre-mixed			
7. Provides a system of transportation of the ingredients to permit non-contamination			
8. Insures that accurate weights and measures are obtained			
9. Insures that pre-mixed and major ingredients are thoroughly compounded			
10. Has sample of feed analyzed to compare against control charts			
11. Develops an identification code for all research rations to permit identification, purpose, date mixed, and the like			
Will Items 1-11 develop the competency suggested in Item C?		11	1

Table 8--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
D. Coordinates and cooperates in the development of new food products	3.18		
E. Specifies what data should be recorded and plans a procedure for recording it	3.09		
1. Identifies the data needed to complete the objectives			
2. Plans for collecting the data a. Type b. When and how often c. Done by whom			
3. Trains employees in collecting the data a. Accuracy according to directions b. Proper completion of the forms			
Will Items 1-3 develop the competency suggested in Items D and E?		12	0
F. Recommends and determines need for research	3.09		
1. Keeps abreast of the problems of the industry and ofthe business			
2. Keeps abreast of the trends of the industry and of the business			

Table 8--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Spots areas needing research through constant analysis of the business records and an awareness of the trends and problems			
4. Is familiar with the methods of research that may be employed by the company			
5. Is able to plan and institute research projects			
6. Is familiar with the procedures and business policies of the research program			
7. Plans and determines the physical, personnel and financial needs to carry out the research			
Will Items 1-7 develop the competency suggested in Item F?		12	0
G. Performs many basic skills as testing for moisture, TDN, ash and the nutrients	3.00		
1. Is familiar with the basic skills such as testing for moisture, TDN, ash, and the nutrients that are used in the business			
2. Is familiar with alternative methods of performing the same basic skills			

Table 8--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=12	
		Yes	No
3. Has the ability to perform the basic skills in the manner used in the business			
Will Items 1-3 develop the competency suggested in Item G?		11	1

Table 9

COMPETENCIES, UNDERSTANDINGS, ABILITIES AND SKILLS NECESSARY TO PERFORM THE MAINTENANCE FUNCTION

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=11	
		Yes	No
A. Understands function of each operating machine 1. Reads the operational manual for each machine 2. Reads the maintenance manual for each machine 3. Is able to operate each machine according to directions in the manual	3.75		
Will Items 1-3 develop the competency suggested in Item A?		11	0
B. Understands relationship between machines in the total operation 1. Relates the function of each machine to the total function of the business	3.75		
Will Item 1 develop the competency suggested in Item B?		10	1
C. Understands distribution systems for moving or conveying grains and feeds 1. Is familiar with the principles of each system used in the business for conveying grains and feeds	3.58		

Table 9--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=11	
		Yes	No
2. Is able to work with and adjust and regulate each part of the system			
Will Items 1-2 develop the competency suggested in Item C?		11	0
D. Reads and understands the manual of installation and operation instructions	3.50		
1. Maintains a file of the operation and installation manuals			
2. Reads these manuals			
3. Works with each of the machines			
Will Items 1-3 develop the competency suggested in Item D?		11	0
E. Understands and respects safety features and employes safety coding through the use of colors, signs, and warning devices	3.25		
1. Understands the importance of employee safety			
2. Knows the importance of each feature of the company			
3. Employes the safety color codes in appropriate places			
4. Has a safety campaign to stress constantly its importance			

Table 9--Continued

Competencies	Mean Rating by Representatives of Industry	Response of Teachers Regarding Items N=11	
		Yes	No
5. Displays signs and posters in appropriate places			
Will Items 1-5 develop the competency suggested in Item E?		11	0
F. Keeps the physical equipment inventory records of instruction and maintains an orderly tool and material room and office	3.16		
1. Maintains a file of the following: a. Physical equipment inventory b. Operational manuals for each machine c. Instructional manuals for each machine d. Maintenance logs for each machine			
2. Promotes neatness in tool and equipment storage			
3. Promotes neatness in office procedures			
Will Items 1-3 develop the competency suggested in Item F?		11	0

Appendix B

INSTRUCTIONAL PROGRAMS TO DEVELOP COMPETENCIES NEEDED BY WORKERS IN THE FEED INDUSTRY

Tables 10-18 present:

1. Competencies identified as important for effective job performance by workers in the feed industry.
2. Outlines of instructional units -- experiences, materials, and activities -- which may be used to develop the identified job competencies.

NOTE: In the following tables, function is indicated in the title of each table. Competencies are indicated as major headings in the outline as A, B, C, etc. Experiences and activities to develop the competencies in question are in the column at the right of each table.

Table 10

INSTRUCTIONAL EXPERIENCES AND ACTIVITIES TO DEVELOP COMPETENCIES IN AGRICULTURAL LEADERSHIP

Competencies to be Developed	Experiences and Activities
A. Keeps abreast of the activities of the business	Experience in similar activities may be provided through:
1. Attends appropriate meetings of company personnel	1. Role playing in communication units
2. Is acquainted with company personnel	2. FFA committee activities
3. Reads all company reports	
4. Is familiar with company projection plans	3. Reports given in animal science units
5. Has periodic conferences with department heads a. Is aware of their problems b. Is aware of relationships among departments	
B. Reads and interprets trade journals	Experience can be provided through use of:
1. Has access to trade journals	1. Readings
2. Reads trade journals	2. Reports
3. Seeks clarification of appropriate points not fully understood	3. Interpretations of materials from the industry for use in animal science, farm management, and other units
4. Plans for testing and implementing sound ideas and practices	
5. Keeps up to date on new machinery	
C. Evaluate and disseminates other tried and tested programs, techniques, and efficiency ideas	See: Communication Units A, B, and D Animal Science Units
1. Makes constant use of written and non-written sources of information	

Table 10--Continued

Competencies to be Developed	Experiences and Activities
2. Keeps a file of new techniques, programs, and ideas	
3. Utilizes these new techniques and ideas when helping local dealers and farmers in developing alternatives to their present operations	
D. Keeps abreast of developing trends, new developments, and new farm technology	Experience may be provided through use of these materials when studying animal science units and farm management units
1. Is familiar with sources of information related to the feed industry and associated fields a. Professional journals b. Farm magazines c. Special newsletters d. Trade journals e. Research reports of experiment stations f. Experiment station and United States Department of Agriculture bulletins	
2. Makes use of non-written sources of information a. Professional meetings b. In-service training sessions c. Farm meetings d. Adult classes, Vo-Ag and Extension e. Company meethings f. State and national conventions g. Special subject meetings	
E. Promotes farm automation and encourages farmers to adapt new techniques to their farms	Animal Science Unit A; and Farm Management, Units A and C
1. Is familiar with methods of improving the efficiency in the feed industry	

Table 10--Continued

Competencies to be Developed	Experiences and Activities
a. Is able to conduct time-motion studies where needed	
b. Understands methods of handling feeds	
c. Understands methods of housing animals	
d. Understands proper methods of sanitation for livestock and poultry	
e. Understands accepted methods of management of livestock and poultry	
2. Promotes farm automation and encourages farmers to adopt new techniques to their farms	Communication, Unit A; FFA Activities; and A. Adoption of Ideas B. Sources of Information
3. Attends conventions, exhibits, and meetings related to the feed industry to secure new ideas	
4. Is aware of the adoption process followed by farmers in accepting new ideas and techniques	
a. Awareness	
b. Interests	
c. Evaluation	
d. Trial	
e. Adoption or rejection	
F. Works with employees in maintaining morale	Employer-Employee Relations
1. Maintains effective working conditions	
a. Physical conditions	
b. Social conditions	
2. Sets up to receive and follow up an employee's suggestion	
3. Is alert to rumors	

Table 10--Continued

Competencies to be Developed	Experiences and Activities
4. Has a fair promotion and reward system	
5. Has an equitable system of benefits	
G. Clearly instructs employees about the work expected of them	Supervision of Employees
1. Becomes familiar with all jobs of the company	
2. Instructs the employee as to the why and how of the job	
3. Follows up to see that employee is growing into the expected job performance	
H. Supervises personnel and coordinates their work within departments	
1. Knows each employee	
2. Is familiar with work of each employee	
3. Is able to conduct supervision openly, fairly, and systematically	
4. Is familiar with the work of each department	
5. Is able to organize the work of each department and of each worker in the department so that the workers and departments compliment each other	
I. Visits local dealers and assists them in solving their management problems, as well as those involving customer relations	

Table 10--Continued

Competencies to be Developed	Experiences and Activities
1. Keeps aware of the problems of the business	
2. Knows how to work with people	
3. Is familiar with good human relations practices	
4. Can analyze the management problems	
5. Can analyze the customer relations problem	
6. Is familiar with methods of improving customer relations	
J. Prepares materials suitable for in-service training and professional upgrading of personnel	See: Communication, Units A, B, C, and D
1. Is familiar with the problems and trends of the business	
2. Is acquainted with all of the jobs of the business	
3. Is acquainted with problems encountered by most employees as they progress on the job and with the company	
4. Reviews journals, magazines, and conference reports for ideas	
5. Can organize material geared to a learning situation--rather than a tilling situation	
6. Has the ability to write material to be used in learning situations	

Table 11

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: ANIMAL SCIENCE

Competencies to be Developed	Experiences and Activities
A. Animal Health and Sanitation	A. Maintaining Animal Health
1. Recognizes undesirable and detrimental practices in animal health conditions a. Understands the relation of farm sanitation to feed efficiency and animal health b. Understands the effect of management practices, feeding, and health on results of the feeding enterprise c. Is able to identify major disease symptoms in the livestock herd or flock	1. Management 2. Housing 3. Sanitation, and disease control 4. Feeding
B. Animal Nutrition: Understands and interprets MDA and USDA requirements concerning feed processing	B. State and Federal Regulations Regarding Livestock Feeds
1. Develops an understanding of MDA feed laws a. State inspection service b. System of dating and tagging c. Ingredients d. Digestable protein e. Crude protein f. Carbohydrates g. Fats h. Additives i. Mineral j. Concentrates k. State specifications	
2. Develops an understanding of USDA specifications	
C. Has a working vocabulary of common terms such as:	

Table 11--Continued

Competencies to be Developed	Experiences and Activities
1. Roughages	
2. Pasture	
3. Concentrate	
4. Supplement	
5. Mineral	
6. Protein	
7. Carbohydrate	
8. Vitamin	
9. Water	
10. Additive	
11. Ration	
D. Is aware of the various types of feeds and their purposes and understands the changing feed requirements of growing animals reflected in types of feed	C. Feed Requirements of Each Class of: 1. Growing Animals 2. Fattening Animals 3. Breeding Stock
1. Fine and coarse feeds	
2. Growing and fattening feeds	
3. Nursing feeds	
4. Laxative feeds	
5. Production feeds	
6. Special nutritional feeds	
E. Is able to blend feeds	D. Planning Conditioning Rations for Livestock and Poultry:
1. Consistent and accurate	

Table 11--Continued

Competencies to be Developed	Experiences and Activities
2. According to purpose of the feed 3. Calculate ingredients 4. Performs functions necessary to grind, roll, pellet, wafer, and crimp	1. For All Purposes 2. For All Classes and Ages of Livestock
F. Understands and interprets feed formulas and procedure for mixing them	
1. Develops an understanding of the types of feed formulas used by the company a. Fine and coarse feeds b. Growing and fattening feeds c. Nursing rations d. Laxative feeds e. Production feeds f. Special nutritional feeds	
2. Knows the ingredients of each feed blended by the company a. Ingredients (quantity and quality) b. Sequence of the process c. Analysis of each feed	
G. Adjusts mill machinery to meet processing specifications	See: Unit C, above
1. Is familiar with the specifications of each type of feed processed or blended	
2. Is able to adjust mill machinery to meet processing specifications a. Grinding b. Mixing c. Blending d. Rolling e. Pelleting f. Crimping g. Packaging	

Table 11--Continued

Competencies to be Developed	Experiences and Activities
H. Calculates the ingredients required for each feed operation	
I. Is familiar with the procedures and factors associated with formulation of rations	
J. Assists farmer in planning programs and trouble shoots thin feeding problems	E. Planning a Feeding Program for the Livestock Enterprises of the Community
1. Is familiar with the nutritional requirements of all types of growing animals	
2. Is familiar with the various methods of feeding animals	
3. Is able to recognize feeding problems	
K. Recommends feeds and rations to be used in specific farm situations	
1. Understands animal nutrition including: a. Principles of nutrition b. Functions of feed ingredients c. Elements found in animal feeds d. Growth patterns and changing nutritional requirements of farm animals	
2. Is familiar with feed ingredients common to the area	See: Unit D, above
3. Ability to adjust feed purchases to feed supplies on the farm a. Roughage and pasture on the farm b. Grains produced on the farm c. Mineral deficiencies common to the area	

Table 12

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: COMMUNICATION

Competencies to be Developed	Experiences and Activities
A. Promotes the use of company products by encouraging their use by farmers	In addition to content provided in Units such as, Animal Science Units A, B, C, and D; and Farm Management, Unit A include: A. Units in English Composition or Communication involving: 1. Writing articles based on research 2. Speaking to groups 3. Discussion (conversation) with one or two persons 4. Use of resource persons
1. Is familiar with the line of company products	
a. Knows their costs	
b. Recognizes their advantages	
c. Understands their limitations	
d. Is familiar with recommendations of the company and of the manufacturer	
2. Is able to show customers data regarding feeding of livestock and poultry	
a. Shows and interprets research data	
b. Uses experiment station research data	
3. Knows the resource persons who are available to help solve special problems related to livestock and poultry enterprises	
B. Visits livestock producers to determine their understanding of relationship between livestock industry and the feed industry	B. Writing Reports
1. Knows livestock producers in the territory	
2. Is acquainted with operator-management, strengths-weaknesses of producers	

Table 12--Continued

Competencies to be Developed	Experiences and Activities
3. Plans and conducts a systematic visit to each producer in the business	
4. Keeps a record of each visit	
5. Identifies problems of producers	
6. Works with producers in solving their problems	
C. Attends meetings sponsored by the Cooperative Extension Service and by teachers of vocational agriculture	C. Participating Conference and Discussion Groups
1. Is acquainted with extension and vo-ag personnel	
2. Is familiar with those farmers who attend, knowing especially the customers of local dealers	
3. Helps plan for and participates in such meetings	
D. Assists in the promotion, distribution, and use of publications, bulletins, and movies of the industry	D. Using Instructional Aids in Speaking and Discussion Groups
1. Maintains a file and library of industry resources materials a. Publications b. Bulletins c. Slides d. Movies e. Other instructional materials	
2. Maintains a file of items on loan	
3. Maintains a file regarding dates and places where resources may be used	

Table 12--Continued

Competencies to be Developed	Experiences and Activities
a. Meetings of the Cooperative Extension Service b. Vocational agriculture meetings c. High school classes d. Special meetings of businessmen and farmers e. 4-H Club meetings f. Meetings of farmer's organizations	
E. Talks at farmers' meetings on matters of interest	See: Unit A, above
1. Keeps up to date on trends and developments a. Reads journals b. Confers with important people in the fields c. Visits research farms and experimental plots	
2. Can organize materials for presentation a. Review materials b. Make appropriate outline of materials	
3. Is familiar with methods of presentation a. Audio-visual b. Lecture	
4. Is familiar with some techniques of delivery a. Eye contact b. Enunciation c. Pronunciation d. Posture	See: Unit A, above
F. Assists local dealers in promotional campaigns and feed and grain clinics for livestock farmers	See: Units A and D, above

Table 12--Continued

Competencies to be Developed	Experiences and Activities
1. Is acquainted with the livestock feeders of the area	
2. Is familiar with the livestock feeders of the area	
3. Can design a teaching program to use in feed and grain clinics	
4. Can organize a feed and grain clinic	
G. Encourages education concerning the economics of the grain production enterprises and government subsidies and storage	See: Animal Science, Unit B; Farm Management, Units D and E; and Communication, Units B and C
1. Works with personnel in education a. Youth workers (4-H, FFA, Scouts, others) b. Organized adult groups	
2. Is familiar with the educational agencies of the community	
3. Is familiar with the economics of grain production a. Costs b. Area products c. Disposition	See: Farm Management, Unit D
4. Is familiar with the government subsidies and storage a. Is familiar with the laws, specifications, and requirements of government subsidies and storage and keeps abreast of the changes b. Keeps a file on the laws, specifications and storage regulations	See: Animal Science, Unit B; and Crop Science, Unit A

Table 12--Continued

Competencies to be Developed	Experiences and Activities
H. Recommends names of agricultural firms and businesses having personnel available for consultation with customers who have problems	E. Identifying and Recording Lists of Resource Persons
1. Keeps an up to date file of available resource persons a. Name b. Special area c. Phone d. Address	F. Planning with Resource Persons for their Participation in Meetings
2. Is familiar with appropriate policies and procedures for using resource persons a. Contact private firms b. Extension procedures c. Policy of firms regarding assignment of personnel	
I. Prepare records of problems observed in the area and suggest procedures for solving them	See: Unit B, above
1. Have a form for recording appropriate data as visits are made a. Activity b. Conditions encountered c. Scope of the problem d. Practices and recommendations e. Plans for a follow-up	
2. Uses library for research material from which to make recommendations a. Extension and experiment station publications b. Specialty newsletters c. Special references for area d. State and USDA publications e. Farm magazines f. Trade and professional journals	

Table 12--Continued

Competencies to be Developed	Experiences and Activities
J. Prepares reports of activities, including purposes of each activity, procedures used, and evaluation of results	See: Unit B, above
1. Ability to plan and submit plan of activities a. Dates and purposes of activities b. Methods of performing activities c. Involvement of appropriate personnel	
2. Ability to prepare and submit reports of each activity a. Recommendations b. Purposes c. Persons involved d. Accomplishments e. Follow-up and other commitments f. Expense accounts	
3. Ability to prepare and submit periodic reports, including reports of activities and evaluation reports	
K. Develop reputable rapport with dealers through accurate representation of products	See: Communication, Units A, B, and C
1. Knows the products of the business	
2. Knows and follows good techniques in company-dealer relationships	
3. Is objective in representation of products	
4. Keeps in constand touch with the local dealer and understands his problems	

Table 13

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: CROP SCIENCE

Competencies to be Developed	Experiences and Activities
A. Records letters received, location of its storage, quality and condition, and keeps a running inventory; determines the acceptability of storage conditions; determines when feed is "safe" to store or feed; and receives and stores feed and grain ingredients	A. Grain storage and grain testing for: 1. Moisture 2. Foreign materials 3. Other characteristics
1. Receives ingredients	
a. Checks for quality and conformity to the requirements	
1) Undesirable and foreign materials	
2) Weight	
3) Moisture	
4) Minerals	
5) Uniformity	
6) Color	
7) Damage	
b. Determines storability	
2. Stores ingredients and feed	
a. Stores only with like quality and product	
b. Checks storage bins for safety, capacity, freedom from rodents and other possible contamination	
c. Is aware of the proper storage conditions for the ingredients and the product	
d. Is aware of appearance and conditions of "badly spoiled" products and ingredients	
e. Stores in a location convenient for the blending (manufacturing) and shipping processes	

Table 13--Continued

Competencies to be Developed	Experiences and Activities
1) Distance from point of use 2) Methods of receiving and shipping 3) Method of transportation to the blending process 4) Sequence 5) Amount used f. Knows storage characteristics of ingredients and products g. Follows a systematic process of inspecting storage bins for: 1) Capacity 2) Safety 3) Condition of stored ingredients or products 4) Moisture 5) Rodents 6) Age of stored ingredients or products 7) Stored grain tests	
3. Follows systematic plan for caring for stored feed a. Inspects b. Moves (turns feed and ingredients) c. Provides ventilation and aeration where needed	
4. Follows a systematic plan for using feeds a. Maintains adequate records b. Uses older ingredients and products first	
B. Makes field and bin inspections on farms	B. Grading Grain
1. Knows the state specifications and requirements	
2. Sets up a systematic program for inspection of fields and bins	

Table 13--Continued

Competencies to be Developed	Experiences and Activities
3. Keeps a file on the statistics of the fields and bins a. Location b. Type c. Size or quality d. Previous history of problems at this location e. Record of each visit, problems encountered and accomplishments	
C. Buys grain from several sources with the intent of mixing to meet grade specifications	See: Unit B, above; and Animal Science, Unit D
1. Is familiar with specifications of products blended, manufactured, and sold a. Percent ingredients in product b. Quality of raw materials used	
2. Can determine ration mixing and blending of the raw materials to get desired specifications in finished product a. Quality of raw materials b. Quantity of raw materials c. Quality of product d. Quantity of finished product	

Table 14

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: DISTRIBUTION

Competencies to be Developed	Experiences and Activities
A. Assists local dealers in promoting use of specific feeds by local producers	See: Animal Science, Units C and E; and Farm Management, Unit A
1. Is familiar with the types of animals and feeds normally used in the local area	
2. Is familiar with the feeding problems normally encountered by the local dealer	
3. Is familiar with all the feeds of the business	
4. Acquaints the local dealer with all new feeds of the business	
5. Encourages the local dealers to acquaint their customers with the use of specific feeds for specific jobs	
B. Determines purchase price based on market reports, grade and transportation differential	See: Farm Management, Units D and E; and Crop Science, Unit A
1. Develops an understanding of the market reports a. How many reports and the groups from which they came b. How often issued c. Types of reports issued d. Has an understanding of the format e. Has an understanding of the terms used	
2. Develops an understanding of the factors involved and adjusting the market report to business use	

Table 14--Continued

Competencies to be Developed	Experiences and Activities
a. Grade or quality of material used in the company	
b. Knows the weekly, seasonal, changing requirements of the company	
c. Is familiar with the quality of each material used by the company	
d. Is familiar with the normal sales	
e. Anticipates special needs of the company	
3. Develops a working knowledge of the sources of products	
a. Is familiar with the salesmen who call on the company representatives	
b. Is familiar with the other companies	
c. Is familiar with alternative sources of feed supplies	
4. Develops an understanding of how to determine the purchase price	
a. Quantity needed	
b. Expected sales price of the product	
c. Possible substitutes of equal quality	
d. Possible bulk, company, or other discounts	
e. Shipping and freight costs	
f. Market outlook	
C. Purchases ingredients for mixed feeds from suppliers	See: Farm Management, Units D and E; and Crop Science, Units A and B
1. Has a working knowledge of who the suppliers are	
2. Can determine the purchase price	

Table 14--Continued

Competencies to be Developed	Experiences and Activities
3. Knows the company requirements in terms of quality, quantity, and possible substitutes	
4. Can interpret the records and forms used for ordering	
D. Records volume purchased, condition, grade, price, source, transportation, freight, and insurance; and arranges for receipt of grain and feedstuffs, including storage facilities, recording quantity of materials, condition, cost, and how handled	A. Record Keeping
1. Keeps accurate record of purchase a. Amount purchased b. Quality c. Source d. Cost e. Transportation method f. Freight costs g. Insurance	
2. Arranges and makes provision for appropriate receipt of items a. Amount received b. Quality c. Cost d. Source e. Method of receiving f. Condition upon receipt	
3. Keeps accurate record of the distribution of grain and feedstuffs and of the products	
E. Buys specific kinds, quality and grades of grain; bargains with seller to buy at best possible price	See: Crop Science, Units A and B; Animal Science, Units B, C, D, and E; and Farm Management, Units D and E
1. Is familiar with the sources of grain, feedstuffs, and products	

Table 14--Continued

Competencies to be Developed	Experiences and Activities
2. Is familiar with the type, quality of grain to be purchased	
3. Is familiar with the normal classification of grain a. Type b. Grade	
4. Can determine and compare prices of possible purchases of grain from different sources a. Comparison of cost per unit b. Discounts c. Transportation and insurance costs	
F. Arranges for deliveries and modes of transportation	See: Trade and Industry, Units J and K
1. Is familiar with costs of deliveries a. Method b. Distance	
2. Is familiar with the methods used by the company for deliveries a. Company truck b. Rail express c. Mail d. Air freight e. Motor freight	
3. Can fill out the appropriate delivery forms a. Name, address, phone, destination b. To whom to bill c. Quantity to ship d. Method of shipment e. Quality-type f. Special delivery instructions g. Size of unit	

Table 14--Continued

Competencies to be Developed	Experiences and Activities
4. Is familiar with the company delivery schedule	
G. Determine prices to offer for grain and feedstuffs based on knowledge of outlook and future trends	See: Farm Management, Units B, D, and E; and Crop Science, Unit B
1. Knows the factors on which the offering price is based a. Use to be made of grain and feedstuffs b. Quality c. Possible quantity discount d. Who pays shipping costs e. Supply conditions f. Number of sources from which the grain or feedstuffs are available g. Changing market conditions--outlook	
2. Can determine the price considering the above factors	
H. Studies market prices by watching grain futures	See: Farm Management, Units D and E
1. Understands "grain futures"	
2. Keeps a record of market changes	
3. Studies these for trends	
I. Makes effective use of telephone and telegraph to complete transactions	B. Using Telephone and Telegraph
1. Has good telephone manner	
2. Keeps a file of appropriate telephone numbers	
3. Keeps a complete and accurate record of telephone and telegraph commitments	

Table 14--Continued

Competencies to be Developed	Experiences and Activities
J. Recommends procedures for reducing costs and increasing efficiency 1. Is familiar with the transportation methods used by the business 2. Keeps efficient records of the cost of transportation used by the business 3. Examines the records for out-of-line costs 4. Compares the needs with other similar businesses 5. Reads and gathers information about the transportation methods 6. Recommends changes when advisable	See: Trade and Industry, Units J and K, above
K. Determines efficiency of handling sacks, bags, boxes of feed or loose grain 1. Keeps a record of sales and includes quantity of each item sold, noting size and type of containers 2. Examines the records for cost of handling, time and labor involved 3. Adjusts transportation system and employees to obtain efficiency	See: Trade and Industry, Units J and K, above
L. Keeps mileage record and log of deliveries 1. Maintains a dispatch record for each vehicle	See: Trade and Industry, Units, L and M, above

Table 15

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: FARM MANAGEMENT, CREDIT, AND AGRICULTURAL ECONOMICS

Competencies to be Developed	Experiences and Activities
A. Assists farmers in planning programs and trouble shoots feed problems	A. Livestock Management Practices
1. Is familiar with the system of handling feed on the farms	
2. Is able to systematically analyze the feeding situation to determine its efficiency in relation to management factors	
3. Is familiar with management practices in the feed industry	
B. Sells direct to farmers on the farm	B. Management Principles for Non-Farm Agricultural Business
1. Visits the producers of the business area on a systematic follow-up basis to work with them on feeding programs and special problems related to their area	
2. Is familiar with needs and problems of the producers in the business territory	
3. Reports results obtained to manager of the business	
C. Assists producers with individual problems by reviewing the specific situation	C. Analyzing the Farm Business
1. Encourages producers to keep appropriate records	
2. Encourages producers to analyze farm business	

Table 15--Continued

Competencies to be Developed	Experiences and Activities
3. Reviews the farm business record with the producer to help discover and solve problems	
D. Prepares budget analysis to show benefits of using certain feeds in specific farm situations	D. Farm Prices
1. Is able to recognize alternatives	
2. Is able to accurately prepare the analysis, recognizing important factors	
E. Prepares farm plans for producers	E. Budgeting Alternatives
1. Has ability to make a farm business analysis, including the following: a. Enterprise analysis b. Animal units c. Crop units d. Labor income e. P.M.W.U. f. Labor needs g. Machinery requirements	
2. Has ability to prepare a farm inventory	
3. Maintains a file of up to date plans and procedures	
F. Sells direct to customers in an informative manner	F. Planning the Farm Business
1. Is familiar with the products he sells	See: Animal Science, Units B, C, D, and E
2. Is familiar with problems customers may have with the product and is able to help avoid these problems	

Table 15--Continued

Competencies to be Developed	Experiences and Activities
G. Works with local dealers on problems of credit for farmers	G. Securing and Using Credit
1. Is familiar with sources of credit available to farmers a. Local banks b. Local dealers c. P.C.A. d. F.H.A. e. Other	
2. Can make up and analyze a net worth statement	
3. Understands and is able to evaluate the limiting factors associated with the extension of credit a. Ability to pay b. Management ability c. Personal traits d. Family characteristics e. Personal character	
4. Works with local dealers to help them with their credit rating with the company a. Is familiar with factors associated with the extension of credit to dealers 1) Assets 2) Liabilities 3) Character rating of the operator b. Analyzes credit risk of dealers	
H. Exhibits alertness and sensitivity to situations in which a service can be rendered	See: Units C, D, and E, above. Also include experience in conference techniques as part of F.F.A. program
1. Helps farmers consider all alternatives	

Table 15--Continued

Competencies to be Developed	Experiences and Activities
2. Helps farmers select best alternatives	
3. Helps local dealers with techniques of assisting their customers and reaching desirable decisions	
I. Assists producers in solving feeding and related problems	See: Animal Science, Unit A
1. Is familiar with the feeding problems of the customer and of others in the area	
2. Knows the feeding problems generally associated with local livestoc and poultry enterprises	
3. Understands the relationship of sound management practices to the results secured from feeds a. Efficiency b. Housing c. Sanitation d. Health of animals	
4. Is able to identify disease and parasite symptoms a. Internal parasites b. External parasites c. Viruses d. Skin disorders e. Infections f. Others	

Table 16

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: OFFICE PRACTICES

Competencies to be Developed	Experiences and Activities
A. Develops an alterness to new opportunities for the business	
1. Keeps in personal touch with the research being conducted in the area of feeds and feeding	
2. Knows the activities of similar businesses	
B. Develops and improves upon the materials accounting system when the opportunity to increase efficiency becomes apparent	A. Cost Accounting Procedures
1. Maintains records of: a. Labor efficiencies b. Cost per unit c. Plan efficiency d. Cost of each department e. Cost of each process	
2. Compares these with other companies of like operation	
3. Considers all alternatives	
4. Is aware of other types of materials and accounting systems	
C. Understands techniques of processing feed through data processing and prepares computer programs for processing	B. Data Processing Procedures
1. Becomes familiar with data processing procedures a. Magnetic tapes b. Punches cards c. Programming d. Coding	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
2. Is familiar with the machines involved a. Key punch b. Verifier c. Duplicators d. Accounter e. Sorter f. Various types of computers	
D. Sells direct to producer and farmers on the farm	See: Farm Management, Units A, C, and E
1. Becomes acquainted with the producers in the business area and with their needs and problems	
2. Encourages producers to place orders for feed and other products	
E. Sells directly to customers across the counter in an informative manner, without misrepresentation	C. Salesmanship
1. Is neat in personal appearance	
2. Knows and follows the techniques of good customer sales relationship	
3. Answers inquiries as objectively as possible	
4. Knows and follows good salesmanship practices	
F. Solicits local dealers to sell company products	See: Unit C, above
1. Acquaints the local dealer with all of the products sold by the company	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
2. Encourages the local dealer to stock with items that are likely to sell	
3. Develops techniques with the local dealer for promoting new products	
G. Assists local dealers and promotional campaigns and feed and grain clinics for livestock feeders	See: Communication, Units, A, B, and C
1. Is familiar with the company products	
2. Is familiar with promotional techniques	
3. Performs an inventory to determine items that spend too much time on the shelf	
4. Can design a promotional campaign for new products	
H. Helps farmers arrange credit and accepts responsibility for the collection of "Accounts Receivable"	See: Farm Management, Unit G
1. Establishes a procedure for collecting "Accounts Receivable" in line with company credit policy	
I. Promotes the use of company products by encouraging their use by farmers	See: Farm Management, Units A, C, and E
1. Is familiar with accepted practices in regard to new customers	
2. Is familiar with the location of customers	
3. Is alert for new customers	
4. Is alert to new products	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
J. Works with local dealers in the promotion and sales of the feeds in his organization	
1. Knows the products of the company	
2. Is familiar with proper feed handling methods to be employed by a successful local dealer	
3. Is familiar with the feeds needed in the local area	
4. Knows and is able to use acceptable promotional methods a. Visits to the farm or local dealers b. Exhibits c. Displays d. Handouts e. Advertising f. Billboards g. Demonstrations h. Field trips	
5. Knows and practices acceptable sales techniques	
K. Keeps local dealers informed regarding problems most frequently encountered on farms	See: Communication, Units B, C, D, and E; and Unit C, above
1. Is alert to identifying problems as he visits the farm	
2. Has ability to prepare and submit appropriate reports a. Recommendations to the customer b. Report of other areas which were not discussed with the customer	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
3. Performs periodic evaluations on the types of problems encountered	See: Farm Management, Units A, C, and F
L. Provides records and data required by his supervisor in an acceptable form; and provides information to his supervisor about the organization, its products, and services	D. Record Keeping and Filing Systems
1. Sets up a filing system a. Follows an established form b. File all reports, letters, documents, specifications, and orders	
2. Familiarizes himself with the filing system used	
3. Keeps up to date on the organization patterns and possible changes	
4. Is familiar with all the products and services of the company	
5. Is familiar with the business forms of the company	
6. Periodically and systematically reviews the company's progress	
7. Evaluates the progress in terms of prior expectations	
8. Investigates new areas for services and products	
9. Provides reports	
10. Has periodic conferences with his supervisor	
M. Makes periodic summarizations of the business for purposes of analysis	E. Preparing a Periodic Summary of the Business

Table 16--Continued

Competencies to be Developed	Experiences and Activities
1. Is familiar with the business forms, procedures, and the policies of the company	
2. Makes a periodic systematic summary of the business	
3. Analyzes the business for trends, weaknesses, and strengths	
N. Performs administrative duties in line with established and accepted organizational patterns; and determines policy concerning wages, hours, and benefits	See: Agricultural Leadership, Unit C
1. Develops a fair and equitable policy for wages a. Beginning b. Advances c. Overtime	
O. Evaluates and commends worker performance	See: Agricultural Leadership, Unit C
1. Follows a systematic plan for evaluation of work performance a. Fair b. Frequency c. In all work situations of the employee d. Confers with workers frequently	
P. Establishes and uses approved systems of cost accounting	See: Unit A, above; Distribution, Unit A; Communication, Unit B; and Trade Industry, Units C and G
1. Is familiar with the systems of cost accounting	
2. Can evaluate the systems and select the ones best suited to the business	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
3. Can keep the required records, reports and data of the cost accounting system	
Q. Recommends changes in procedure which will increase organizational efficiency	F. Efficiency Factors
1. Makes organizational charts	
2. Projects organizational charts in light of trends and forecasts	
3. Studies organizational setup for efficiency	
4. Suggests changes that would improve service for efficiency	
R. Delegate authority to employee to the extent he can satisfactorily pursue work expected of him; and delegates authority to workers in best interest of total operation	See: Agricultural Leadership, Units C and D
1. Know work load and job description of each employee in his regular job	
2. Delegates the responsibility and authority necessary for the job	
3. Do not delegate more responsibility and authority than is needed to do the job	
S. Keeps employees informed concerning general policies related to operation	See: Agricultural Leadership, Units C and D
1. Has an established general policy for the business	
2. Permits the policy to be known to employees	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
3. Discusses any policy misunderstanding with employees	
4. Makes known any changes in general policy	
T. Helps to maintain complete and accurate record files	See: Unit A, above; Distribution, Unit A; Communication, Unit B; and Trade Industry, Units C and G
1. Becomes familiar with all company records	
2. Becomes familiar with the filing system of the company	
3. Insures that a file copy of each transaction is completed	
4. Insures that a copy of each transaction is filed	
U. Maintains line of communication within the company organization	See: Agricultural Leadership, Unit D
1. Insures that employees have contacts with their supervisors	
V. Works with employees on the promotion of sales	
1. Is familiar with each of the products	
2. Is familiar with the sales outlets--customers of the business	
3. Is familiar with promotional techniques a. Displays b. Advertisements c. Samples d. Salesmen	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
4. Keeps records of sales for each employee	See: Communication Units
5. Diagnosis sales problems of employees	
6. Sets up sales personnel training program for the business	
7. Sets up sales program for a special service product of the business	
W. Cooperates with the employee to increase job efficiency	See: Unit F, above
1. Is familiar with the job description of the employee	
2. Can perform an efficiency of the job	
3. Asks employee for suggestions and improvements in terms of efficiency of the business	
4. Works with employees to implement desired changes	
X. Hears and processes grievances of workers	See: Agricultural Leadership, Units C and D
1. Insures that all workers have an opportunity to be heard	
2. Sees to it that all grievances are acted upon	
3. Reports all grievances to appropriate persons	
4. Insures that persons reporting grievances be informed as to the action to be taken	

Table 16--Continued

Competencies to be Developed	Experiences and Activities
Y. Applies modern principles and concepts of accounting	See: Units A, B, and D, above
1. Is familiar with the accounting systems of the business	
2. Studies newer concepts and methods of accounting	
3. Suggests appropriate concepts of accounting for implementation into the business	
Z. Interviews and hires new personnel, orients new workers, and makes them feel a part of the organization	See: Agricultural Leadership, Units C and D
1. Keeps track of personnel needs of the business	
2. Is familiar with the requirements that prospective employees need for the job in the business	
3. Is familiar with the sources of new personnel	
4. Conducts an interview with prospective personnel	
5. Evaluates the prospective personnel in light of job requirements	

Table 17

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: RESEARCH AND SCIENCE

Competencies to be Developed	Experiences and Activities
A. Develops an alertness to new opportunities for the business, and keeps in touch with research being conducted in the area of feeds and feeding	See: Communication, Units A, B, C, and D A. Research Techniques
1. Keeps and uses an up to date library a. Professional journals b. Farm magazines c. Special newsletters d. Trade journals e. Research reports of experiment stations f. Experiment station bulletins and USDA bulletins	B. Evaluating Sources of Information and Quality of Research Data
2. Systematically checks with the non-written sources of information a. Professional meetings b. In-service training sessions c. Farm meetings d. Adult classes e. Company meetings f. Special subject matter meetings	C. Applying Appropriate Research Findings to New Situations
3. Secures information from customers about: a. Services now being rendered b. Additional services desired	
4. Sets and follows a systematic plan for visiting the following: a. State research farms b. State research sub-stations c. Field days, commercial and educational d. Commercial companies	

Table 17--Continued

Competencies to be Developed	Experiences and Activities
B. Establishes the physical setup for research and plans daily and periodic routines of work	See: Unit A, above D. Research Objectives
1. Establishes the objectives of research for the business	
2. Plans and determines the physical and personal needs to carry out the research	
3. Plans each experiment in line with the objective	
4. Is familiar with the methods of conducting feed industry research	
5. Secures the needed supplies and personnel	
6. Schedules the work for the employees in line with their abilities	
C. Rejects the use of spoiled or damaged feed in mixing rations for research purposes	See: Crop Science, Units A and B
1. Establishes criteria for evaluating all incoming feeds to be used in research	
2. Insures that all feed is carefully inspected before being considered for use in research	
3. Rejects all feeds that do not meet the criteria	
D. Formulates the rations, including use of micro feeds and antibiotics	See: Animal Science, Units A, B, C, D, and E
1. Understands animal nutrition, including:	

Table 17--Continued

Competencies to be Developed	Experiences and Activities
a. Principles of nutrition b. Functions of feed ingredients c. Elements found in animal feeds d. Growth patterns and changing nutritional requirements of farm animals	See also, units in chemistry dealing with analysis and weigning See: Trade and Industry, Units C, D, and E
2. Understands common feed terms a. Concentrates b. Supplements c. Protein d. Carbohydrates e. Vitamins f. Additives g. Nutrients h. Nicro feeds	
3. Can formulate rations for various animals	
4. Insures that the formulated rations meet the criteria for which they are formulated	
5. Insures that the mixing and grinding machines are not contaminated	
6. Insures that the micro feeds are mixed throughly and pre-mixed	
7. Provides a system of transportation of the ingredients to permit non-contamination	
8. Insures that accurate weights and measures are obtained	
9. Insures that pre-mixed and major ingredients are thoroughly compounded	
10. Has sample of feed analyzed to compare against control charts	

Table 17--Continued

Competencies to be Developed	Experiences and Activities
11. Develops an identification code for all research rations to permit identification, purpose, date, mixed, and the like	
E. Coordinates and cooperates in the development of new feed products	See: Unit A, above
F. Specifies what data should be recorded and plans a procedure for recording it	See: Ofice Practices, Unit D
1. Identifies the data needed to complete the objectives	
2. Plans for collecting the data a. Type b. When and how often c. Done by whom	
3. Trains employees in collecting the data a. Accuracy according to directions b. Proper completion of the forms	
G. Recommends and determines need for research	See: Unit B, above
1. Keeps abreast of the problems of the industry and of the business	
2. Keeps abreast of the trends of the industry and of the business	
3. Spots areas needing research through constant analysis of the business records and an awareness of the trends and problems	
4. Is familiar with the methods of research that may be employed by the company	

Table 17--Continued

Competencies to be Developed	Experiences and Activities
5. Is able to plan and insititute research projects	
6. Is familiar with the procedures and business policies of the research program	
7. Plans and determines the physical, personnel, and financial needs to carry out the research	
H. Performs many basic skills as testing for moisture, TDN, ash, and the nutrients	See: Unit A, above; and Chemistry Units on Analysis
1. Is familiar with the basic skills, such as testing for moisture, TDN, as, and the nutrients that are used in the business	
2. Is familiar with alternative methods of performing the basic skills	
3. Has the ability to perform the basic skills in the manner used in the business	

Table 18

UNITS OF INSTRUCTION TO DEVELOP COMPETENCIES IN THE FEED INDUSTRY: TRADE AND INDUSTRY

Competencies to be Developed	Experiences and Activities
A. Plans and schedules processing operations	A. Planning and Scheduling Work Processes
1. Understands and interprets needs and informs the sales department	
2. Knows output capacities of the various machines and of the plant	
3. Knows the production requirements of each item	
4. Is familiar with each production process so that: a. Efficient use of machines is planned b. Repetition of operations is reduced c. Unnecessary mill adjustments are reduced d. Alterations in the processes are reduced e. Continuous operation is possible	
B. Keeps storage equipment in proper repair	B. Using Manuals for Becoming: 1. Acquainted with Machines and Equipment 2. Maintenance of Machines and Equipment 3. Repair of Machines and Equipment
1. Is familiar with the storage equipment	
2. Maintains files of: a. Operational manuals b. Maintenance manuals	
3. Follows the recommended maintenance procedures	
4. Keeps a record of:	

Table 18--Continued

Competencies to be Developed	Experiences and Activities
a. Normal mishaps or breakdowns b. Maintenance and repairs performed, date and nature of the work performed c. Equipment history	
C. Records and reports daily consumption of feed ingredients, amounts of feed processed, kinds of packaging, and disposal or storage 1. Maintains daily record of: a. Inputs of feed ingredients b. Output of processed feed c. Disposition of feed	C. Record keeping on: 1. Production 2. Machine Operation 3. Machine Maintenance and Repair
D. Performs mill operations, such as grinding, mixing, and packaging 1. Knows the mill operations performed a. Grinding b. Mixing c. Blending d. Rolling e. Pelleting f. Crimping g. Packaging 2. Has ability to perform each operation a. Is familiar with each operation as a process b. Is familiar with the equipment of each operation c. Has experience in each operation	D. Machine Operation in the Feed Mill
E. Keeps processing and mixing equipment in proper repair 1. Is familiar with the processing and mixing equipment	E. Machinery Maintenance and Repair

Table 18--Continued

Competencies to be Developed	Experiences and Activities
2. Maintains files of operational and maintenance manuals	
3. Follows recommended maintenance procedures	
4. Keeps a record of: a. Normal mishaps and breakdowns b. Maintenance and repairs performed, date, and other pertinent equipment history	
F. Sacks, packages, and labels according to specifications	
1. Knows the packaging and labeling specifications a. Type of tag or label required b. Date, code, and other needed information	
2. Has ability to perform operations of: a. Sacking b. Packaging c. Labeling	
G. Packaging and labeling specifications and standards; and recommends machine changes and requisitions parts and materials	F. Efficiency in Relation to Machines
1. Keeps records of new machinery a. Trade journals b. Visits	
2. Recommends changes when needed a. Outdated by newer machines and processes b. Inefficient c. Cost of operation out of line d. Breakdown repairs too costly	

Table 18--Continued

Competencies to be Developed	Experiences and Activities
3. Maintains files of: a. Cost of machinery repair b. Parts manual c. Sources of parts and machinery d. Forms for the requisition of parts	
H. Plans efficient system for keeping records on the use and maintenance of vehicles; and manages maintenance of trucks and other equipment concerned with distribution	G. Record Keeping for Vehicle Maintenance and Repair
1. Sets up and follows a systematic maintenance schedule for all vehicles and equipment	
2. Keeps on file the maintenance manuals for the vehicles and equipment	
3. Keeps a maintenance history of all vehicles and equipment	
4. Maintains a daily and annual dispatch record for each vehicle	
5. Maintains operational records for all equipment	
I. Drives vehicles with full understanding of their operations, maintenance and of safe-driving procedures; and promotes campaigns for safe-driving and use of equipment	H. Driver Training
1. Is acquainted with the operators and maintenance manuals of all vehicles and equipment	
2. Is familiar with the driving characteristics of each vehicle	

Table 18--Continued

Competencies to be Developed	Experiences and Activities
3. Insures that each driver has a valid operator's license	
4. Is familiar with the operational procedures for all equipment	
5. Attends safety meetings for all new company drivers where the driving policies of the business are explained	
6. Keeps constant safety checks on all drivers and equipment operators	
7. Promotes safety through posters, signs, and a system of awards	
J. Knows limitation of stacking sacks and other forms of packages	I. Efficient Handling of Packages
1. Is familiar with each form of packaging used in the business and its handling limitations	
2. Conducts trial handling systems with the employees on delivery trucks and in the warehouse	
3. Establishes a handling system for all products used in the business	
K. Determines transportation costs on fleet of vehicles and on each individual unit	J. Record Keeping of Transportation Costs
1. Maintains daily dispatch record for each vehicle	
2. Maintains transportation record for the business	

Table 18--Continued

Competencies to be Developed	Experiences and Activities
3. Calculates the cost of operating the fleet and of operating individual vehicles	
L. Plans and routes most economical transportation; and routes delivery and service trucks to retail stores, farms, and dealers	K. Delivery Procedures
1. Keeps a record of sales that includes quantity of each item sold, noting size and type of container	
2. Examines records to determine the transportation needs of the business	
3. Is familiar with the service areas (territory) of the business	
4. Plans a vehicle dispatch system to provide for economical deliveries and customer convenience	
M. Understands function of each operating machine	See: Unit D, above
1. Reads the operational manual for each machine	
2. Reads the maintenance manual of each machine	
3. Is able to operate each machine according to directions in the manual	
N. Understands relationship between machines and the total operation	See: Unit G, above
1. Relates the function of each machine to the total functions of the business	

Table 18--Continued

Competencies to be Developed	Experiences and Activities
O. Understands distribution systems for moving or conveying grains and feeds 1. Is familiar with the principles of each system used in the business for conveying grains and feeds 2. Is able to work with and adjust and regulate each part of the system	See: Units A, D, and G, above
P. Reads and understands the manual of installation and operation instructions 1. Maintains a file of the operation and installation manuals 2. Reads these manuals 3. Works with each of the machines	See: Unit B, above
Q. Understands and respects safety features and employs safety coding through use of colors, signs, and warning devices 1. Understands the importance of employee safety 2. Knows the importance of each safety feature of the company 3. Employs the safety color codes in appropriate places 4. Has a safety campaign to constantly stress its importance 5. Displays signs and posters in appropriate places	L. Safety in the Plant

Table 18--Continued

Competencies to be Developed	Experiences and Activities
R. Keeps a physical equipment inventory, records of instruction, and maintains an orderly tool and material room and office 1. Maintains a file of the following: a. Physical equipment inventory b. Operational manuals for each machine c. Instructional manuals for each machine d. Maintenance logs for each machine 2. Promotes neatness in tool and equipment storage 3. Promotes neatness in office procedures	See: Units B and E, above